NEW SERIES. No. 25.] [JANUARY, 1898.

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—HEGEL'S THEORY OF THE POLITICAL ORGANISM.[1]

BY BERNARD BOSANQUET.

A TENDENCY has recently asserted itself in the criticism of Hegel's Philosophy for which Idealists should be thankful. To suspend judgment on his Metaphysic, while quarrying abundantly from his studies of life, was a common attitude, which displayed little intellectual courage. And if we are now called upon to reverse this position, to grapple with and to appropriate the method and general conclusions of the Metaphysic, while rejecting the studies of life as hardly scientific philosophy, we have probably much to learn from such a contention.

The conception of Society as an organism has of late been very ably treated from this newer point of view by Mr. McTaggart in the July number of the *International Journal of Ethics*. His conclusions may be summarised in the following propositions:—

1. If we mean anything by calling Society an organism, we mean that it is the end of the Individuals composing it [and not merely that they are greatly affected by the fact of belonging to it].

2. There is nothing in Hegel's Metaphysic which entitles us to assume [supposing that we accept this Metaphysic on the whole] that our Society is or ought to be an end for its individual members.

3. It may almost be maintained that for any one who understands Hegel rightly, Society cannot be such an end.

[1] The Presidential Address to the Aristotelian Society, 1st Nov., 1897.

4. Philosophy can afford no guidance as to the right direction of the next step in social reform at any given moment; *viz.*, whether it should be to intensify or to diminish the intimacy of the social union.

Without interfering in the immediate controversy which Mr. McTaggart has in hand, I may fairly attempt to restate Hegel's position as it appears to me, and to explain what sort of conclusions I should draw with regard to the above propositions. It is plain how they concern the general relation of Hegel's Logic or Metaphysic to what Mr. McTaggart has called its applications—what I have called above his studies of life. Hegel's Social or Political Philosophy is a principal part of his Philosophy of Mind. To reject this latter, while accepting the Metaphysic, in other words the general argument of the Logic, is to reverse at least one half of the customary judgment of Idealists, and to pledge ourselves to a sharp demarcation between Metaphysic and the direct study of experience with regard to its grades of reality. On the subject of this demarcation I shall have but a few words to say this evening. I only desired to point out how the question before us is an epitome of the whole discussion. I do not conceal that my own hope and endeavour, as at present advised, is in the direction of maintaining the Logic and not abandoning its applications. Considering indeed what Hegel has told us of the relation of historical actuality to the logical notion,[1] I do not at all hold that in mere historical object-matter a false application of the Logic, or an application of it to fictitious existence, is inconceivable. But I must urge that to have wholly failed in establishing true grades of reality or steps toward the absolute, in a department of experience which includes the central development of Mind as such, and which he has worked over with care from beginning to end, would seem to be of very bad augury for his central principle.

1. First, then, let us look at Hegel's position as regards the general nature of an organism as such, and the particular nature of the political and social organism, in view of the proposition that we gain nothing by calling society an organism unless we are prepared to assert that it is the end of the individuals composing it.

a. The first thing that strikes us in Hegel's doctrine of the organism is that the character of being an organism is a matter of degree. The solar system, a typical example of

[1] *E.g.*, *Natur-Ph.*, p. 12.

the category of absolute mechanism, is the "first organism," though this means that the term applies to it in a strained sense. It is, we are told, "the organism of mechanism".[1] The totality of physical nature on our globe is also called an organism,[2] and so of course are the vegetable and the animal individual, although in different senses.

β. If now we ask what is in Hegel's view the characteristic by the degrees of which the grades of organism are distinguished, we find the same context of thought reiterated with notable persistence wherever the subject is entered upon. I extract some general statements, and one which deals with the State as such.[3]

"Such an object, which has in it the process within the simplicity of the notion, is Organic. It is this absolute fluidity, wherein the determination, by which it would be only for others, is dissolved. Whereas the inorganic thing has the determinateness for its essence, and therefore can make up the completeness of the moments of the notion only in conjunction with another thing, and so, when it enters upon movement is lost [as in chemical combination]; in the organic being, on the contrary, all determinations, by which it is open to [the influence of] other things, are tied together under the simple organic unity; none comes out as essential, so that it could freely relate itself to another; and the organic, therefore, in its relation, preserves itself by its own action. In short, the organic is a whole in itself, and contains all that most matters to it; and even in contact with other things it is really self-determined." Another citation[4] will show the point of this; "the chemical process, by the destruction of external form, is the transition to the higher sphere of the Organism, in which the infinite form realises itself as infinite form; that is, the infinite form is the notion, which here comes to reality. Here, therefore, Nature has attained the existence of the notion; the notion is no longer merely potential, no longer merged in a mode of persistence by which its parts are outside one another."

[1] *Natur-Philosophie*, p. 426. It is important to note that though distinctly called an organism, the solar system is in this passage denied to be an "organic existence". It is possible that the implied distinction throws light on the usage by which the State, though frequently spoken of as an organism, and this more especially as regards the political fabric proper, is not, or not prominently, spoken of as organic. In this connexion it is worth noting that the State is actually cited as an instance under the head of Absolute Mechanism (*Logic*, Sect. 199), which gives colour, no doubt, to Mr. McTaggart's suggestion on pp. 419-420 of the Journal.

[2] *Natur-Ph., ibid.* [3] *Phenomenology*, p. 186. [4] *Natur-Ph.*, p. 422.

"Life[1] then, and nothing prior to it, is the true; it is higher than the stars and the sun, which is no doubt an individual, but is no subject. As the unity of the notion, and of the external aspect of the idea, in which the notion maintains itself, life is the Idea; and in this sense Spinoza too calls life the adequate notion, which is no doubt a purely abstract expression. Life is the union of opposites in general, not merely of the opposition of notion and reality. Life is where inner and outer, cause and effect, end and means, subjectivity and objectivity, and so on, are one and the same." "The[2] abstract idea of Organism is that the existence of the particularities, inasmuch as these are set down as passing moments of a single subject, is suitable to the unity of the notion," and then follows the passage distinguishing the solar system as the first or merely potential organism, on the ground that its parts have free independent existence. "Life,"[3] he continues, "has its other in itself, it is a rounded totality in itself, *i.e.* it is *self-end*." Self-end comes in, I think, as a corollary, and as an adaptation from Kant, who is mentioned just below. Compare the way in which these conceptions are applied to the State, *e.g.* "the disposition[4] [*i.e.* that which takes the community as substantial *foundation and end* in ordinary life, see previous section] takes its particularly determined content from the different sides of the organism of the State. This organism is the development of the idea into its differences, and its objective reality. These different sides are the different powers and their occupations and activities, whereby the universal reproduces itself continually, and inasmuch as they are determined by the nature of the notion, in a necessary way; and being thus presupposed before its production, maintains itself; this organism is the political constitution. . . . It is the nature of the organism that if all parts do not pass over into identity, if one establishes itself as independent, all must perish. We get no farther in our judgment of the State by help of predicates, principles, etc., for it must be apprehended as organism; just as little as predicates seem to comprehend the nature of God, whose life I must rather perceive in itself." "The State[5] knows what it wills, and knows it in its universality, as something thought." The whole of this long section, treating of the characteristic difference of form between the State and religion, bears upon the general

[1] *Natur-Ph.*, p. 425. [2] *Ibid.*, 426. [3] *Ibid.*
[4] *Rts.-Phil.*, sect. 269 and lecture note. [5] *Ibid.*, 270.

drift of our discussion. The State for Hegel is in short will and rationality made actual, systematic and explicit, though still touched with finiteness and externality.

Now the characteristic which is emphasised throughout these and other passages is the self-completeness, the circular movement, *αὐτάρκεια* of the organism, to use the term by which the Greek thinkers distinguish the more absolute existence of the community from the more relative existence of the individual. The organism may come under "great influence"[1] from what is without it, but its real determinations are within itself. It is essentially self-related, self-maintaining, and self-identical. This is a point noticeable in relation to the post-Darwinian discussion on the direction of variations, with its reaction against considering an organism as a collection of patent contrivances to meet external emergencies. In other words, the essence of an organism is to be adequate to the notion; for only the notion is ultimately a perfectly self-determining whole, or has perfect fluidity of moments, such that the moments or aspects are purely members and in no degree parts. The defect of the solar system, of the totality of nature, and of the vegetable individual, lies in the point that each of them has parts and not merely members. I do not pledge myself that Hegel is right as to plant-life; he is following the view of his time. But obviously with all externality this is, as Mr. McTaggart reminds us, in some degree the case, though the first appearance of the subject, the infinite form persisting through all transformations, in the self-feeling of animals, is a step which places animal life on a higher footing as regards adequacy to the notion than any form in which feeling is supposed absent.

It seems plain, therefore, that in estimating the organic rank of any complex, we cannot disregard the fluidity or ideality of the members as against the whole. The relation of "great influence" is one thing, and subsists between the organic and the inorganic.[2] Identity, or, so to speak, permeation, as of terms forming differences within a notion or universal, is another thing, and where it is or begins to be found indicates a correlative grade of organic character.

I conclude, therefore, so far, that the mode and degree in which Society permeates its members cannot be left out of account in estimating its organic character. The organ-

[1] *Phenom.*, p. 188. [2] *Ibid.*

ism, in its idea, is the notion in existence. It is an inward process, a circular course, in which a whole maintains itself in a relatively perfect identity throughout differences which itself creates and does not accept from without.

γ. I have thus far intentionally omitted all but the most passing reference to the characteristic of finality. I have merely indicated the observation that though the "immanent end" is constantly near at hand in Hegel's account of the organism, it is rather strikingly absent from his explicit definition of it. Both in the *Phenomenologie*[1] and in the *Natur-Philosophie*[2] it appears rather as a corollary from the definition than as the definition itself, and always, as I venture to suggest, with a consciousness that the term "end," as adopted from Kant, is being driven beyond its powers when given the full import of the "self-end". Is not the same relation indicated by the treatment of End and Life in the Logic? In Life, as we saw above, the distinction of Ends and Means no longer applies.[3] "Selbst-Zweck" or "Self-End" is, I think, one of those modifications of a conception which indicate that it has reached its limit of strict applicability and can henceforward only be used on sufferance.

Bearing in mind the general nature of an organism, according to Hegel, and the precariousness of the conception of end as applied to it, we will now endeavour to understand in what sense the conception of a social organism involves the consequence that Society or determinate social relations should be the end of the individual citizen.

The term "end" is selective; while the term "self-end" —and there is no other combination in which "end" could be, on Hegelian lines, predicated of an organism—contradicts the idea of selection. But if "end" is to have any meaning, selection will force its way in. And so we tend to get a narrowed conception of organism, resulting from an arbitrary selection of the elements which are to count as "end". This is familiar in popular attempts to estimate the perfection of plants or animals. In judging, we select within the whole; not merely with a view to utility, which is confessedly abstract, but in appreciating beauty, or applying the ethical idea of waste, where our judgment is professedly catholic. Yet monstrosities in the former case, and arbitrary narrownesses in the latter, show how difficult it is to handle the conception of an immanent end. Hegel's "self-end," in the organism, is really, I think, always the

[1] P. 189. [2] P. 426. [3] *Natur-Ph.*, p. 425.

notion, whether immediately existent in life, or more deeply embodied in the more explicit form of the State.[1]

What these considerations suggest to me here, is the extreme importance of the precise collocation of ideas which defines the "self-end" as identified with any organism. If we say "the flower is the self-end," we are selecting and excluding within the course of its plant-life; even if we say "the plant is a self-end," we probably mean the visible externality which we admire, and so once more give an unreal predominance to one factor of the whole, and that the spatial and self-external, the relatively inorganic factor.

To apply this to Society and social relations. If we say that in treating Society as an organism we bind ourselves to believe that Society or social relations are the end of their members, and then if we go on to take these members as individuals *qua* visible in their bodies, we have, I incline to believe, got leagues away from what Hegel thought, and, perhaps, from a rational view. The social or political organism as we name it and picture it signifies to us a certain plurality of human beings as opposed to the individual unit, or, at best, a congeries of relations envisaged by us on their external side as other groupings of pluralities of human beings. The wholes are then taken as such numbers and groupings, the parts as individual units indicated by their bodies; and we are supposed to have affirmed that an obligation, or imperative end, or duty, which does not arise when a several individual is considered, is somehow generated by the repetition of such individuals in a plurality; and also that a determinate plurality is an end in itself for A, as linking him with B and C, rather than with Y or Z.

But such a suggestion is analogous to treating the visible body as the "self-end" of an animal organism, or to treating enumeration of instances as the true exhibition of a universal principle. Now the State is for Hegel a body with a soul;[2] and the numbers and groupings of visible persons are only its body as imperfectly seen. The soul of the State is something different; it is the self-conscious will that has actualised and harmonised itself; or in other words, the world of freedom, "the free will that wills the free will".[3] If we must apply the conception of an end,

[1] It might be retorted here at once: "Then 'habemus confitentem' —the end *is* always away and beyond every relative embodiment, and your State *is* but a means". The answer depends on the reality of the Absolute in its relativity. A partial embodiment of an end is something other than a means.

[2] *Rts.-Ph.*, sect. 1. [3] *Ibid.*, sect. 27.

the self-end in the social and political organism is Freedom, or the will which is adequate to the notion of will. Its factors are determined by the nature of the notion, and primarily are not individuals as discriminated by their bodies, but strata of feeling and volition in the ethical order as a whole, or powers and activities in the State proper, which is the effective scaffolding—a living scaffolding—of the ethical order. The factors or moments of the ethical order, he describes, as is well known, as the family, the economic or bourgeois society, coincident with the purely protective State, and the State proper, or political organism; those of the State proper are the legislative power, the executive government, and the monarchical will as bringing the whole to a point. In both cases Hegel has in mind the current physiological distinction between sensibility (to which he compares the family), irritability, the moment of action and separation (to which he compares the bourgeois society or economic world) and reproduction or self-maintenance as representative of the totality of the organism, with which he might have been expected to compare the political State as a whole, but which he does merge in sensibility, as the sense of totality, comparing the State proper to the organised nervous system as a whole. He knows that these comparisons are mere comparisons, and does not seem to lay great stress upon them.

In our language, then, the self which is the end, or the end which is the self, in the social and political organism, is the complete, consistent and self-conscious development of human nature—the full unity of practice and theory as the self-conscious will which wills itself as its object. The body of this soul is necessarily in groups and numbers of human beings, as a universal principle is necessarily developed through and in a plurality of cases. But it is the content and not the plurality which is the determining feature. So in society the end or obligation does not lie in the number or grouping of individuals, but in the manifestation of the will for which these are essential as externality. The distinction of means from end, therefore, cannot apply as between the individual and society as commonly understood. Others and altruism can found no distinction of kind as against self and egoism. How can the service of others be better than the service of myself, if the others are just units by whose accession nothing more is revealed than my own nature contained before? It would be more reasonable, if we must have such a phrase, to say that the individual in one sense is a means to himself in another sense; that in

respect of his irrational will, an element in his actual will, he is a means to his real or rational will, which cannot be exhibited in a content confined to his given or apparently actual self. The latter involves, therefore, a plurality; but it is not an end because it is in a plurality—a "society"—but because the individual is in contradiction with himself in as far as he fails to realise it, *viz.*, his free and rational will.

This point of view is enforced by the observation that for Hegel there is no sign that, primarily at all events, actual individuals are the factors or moments of the ethical order or of the political organism. As for Plato, so for Hegel, the primary moments or aspects of the social whole are the principal moments or aspects of the human mind, feeling, conation, and intelligence, which, though all in each and each in all, yet run as controlling outlines through the classes and groupings of individuals, and show through them, as if they were transparent, how these universal qualities cohere in the constitution of the social will. Doubtless, in ultimate analysis, every individual is even for Plato a differentiated organ of the whole; but he is an organ, if we may venture on a mere illustration of a hazardous kind, not as hand or heart (for the social hand or heart is a complex of institutions or a pervading fibre of feeling) but as a cell within such an organ. The primary moments, the great factors of Society as a will, are for Plato the classes in which aspects of mind are embodied; and for Hegel also, the classes, together with the recognised powers through which the community utters itself as a whole. The individualist world of needs and satisfaction which under the name of bourgeois society Hegel admits into his system by an intentional deviation from Plato, is of course only relatively individualist, and is admitted not because it represents the whole self of the individual, but because it represents an element which seems essential in that self, and which, from its nature, can be represented in no other way. But this moment, like all others, is only rendered possible by the whole within which it subsists, and through its universal bearing expresses that whole in a mode necessary to its completeness.

The result then seems to be that in calling the political whole, and by implication the social whole, an organism, Hegel does not mean anything which can be intelligibly expressed by saying that society is an end to its members. The end, if we must use that term, is, I suppose, the completest embodiment of the idea compatible with the finite

conditions of life; and presents itself to the actual individual as asserting his human nature and satisfying his will; just as the judgment presents itself as an effort to utter the truth. In both cases the effort essentially involves a relation to plurality, not for its own sake, but as a source of organisable content; yet the plurality, again, cannot be called an external means to the development of the original unit, because it is itself on one side in identity with that unit, and that unit, as a unit, is as much a means to the plurality as the plurality to it. The plurality in short is an externality which is a *sine qua non* of the whole process at this stage, but cannot possibly be taken *per se* either as an end or as a means. If we thought it worth while to say that *qua* mere plurality, *e.g.* in respect of the majority of its votes, society is a mere means to the rational development of human nature as forming its own content, this would be the truest sense in which the contrast of means and ends could be applied to the question. In short, to speak of the separate ends of individuals, as to speak of separate individuals as means, is, so far as I understand the matter, a contradiction in terms. To say, therefore, that because their ends are not separate, they are as a consequence merely social ends, in the sense that separate individuals are means to ends which arise when without change of content they are together, is equally unjustifiable as to say that when together in society they are thus a means, to ends which they have considered as apart. I suggest that the comparison with the logical relation of the higher universals to number and classification is worth pressing; but I must break off at this point.

2. "There is nothing in Hegel's Metaphysic which entitles us to assume [supposing that we accept this metaphysic on the whole] that our society is or ought to be an end for its individual members."

Hegel's Metaphysic consists in substance, as I understand it, of approximations to the absolute, warranted by the contradictions which arise at every point if we attempt to rest in the prior approximations as complete. It is postulated, as I understand, slightly modifying Mr. McTaggart's account of the matter, that we bring to the scrutiny of every datum an intelligence which, α, contains in its own nature an implicit affinity with the Absolute,and, β, has made that affinity more or less explicit by specific knowledge and training in the various matters of experience. The Logic is the prerogative example of the application of such an intelligence to the establishment of a necessary progression from very

simple data up to the Systematic Idea. It deals with abstractions so interwoven in the whole nature of experience that theoretically speaking any simplest unit of reality would be sufficient as a suggestion from which the whole system might be read off. Such a connexion of truths may be called *a priori* by the same illusion, or at least in the same sense, in which this character has been ascribed to mathematical inference. The meaning is not that experience can be dispensed with in constructing the scheme of reality, but that very simple experience, and experience of any kind, is enough to suggest the very general characters of thought or perception which are in question. But between the establishment of necessary connexions of this highly abstract nature, and that of necessary connexions in more concrete matter, so long as it is matter which does not disappear in the very act of passing into the form of thought, I see no technical difference but one of degree; and the general possibility of error or even of discrepancy with other relative forms of rational progression cannot in any way be admitted as an argument against steps of reasoning which are not impugned on definitely relevant grounds. I suggest therefore in the first place that the philosophy of Objective and of Absolute Mind falls fairly within the limits of Metaphysic, but dismissing this as a verbal question, I suggest in the second place that the relation of Life in the Logic to Will and Cognition is essentially the same transition as that which appears throughout Hegel's ethical and political studies as the transition from life to free or self-willing will. I do not admit, however, that in following Hegel's further studies we are bound by the transition in the Logic. The structure of experience is infinitely alive with the notion, and a serious analysis may trace it everywhere and on its own merits, not merely by the reflected light of more abstract metaphysic. Discrepancies are to be expected, so long as our starting-points are not brought together and our directions of advance stated in terms of each other. As Hegel says, we cannot do everything at once, but we must trust the notion; which is the same thing as saying, that we must believe knowledge to be real.

The connexion on which Hegel's conception of the State depends is the relation of the Free Will to practical and theoretical mind, or, further back, to Reason, Consciousness and Self-Consciousness. If this connexion cannot be overthrown, as I do not see that it can, remembering that philosophy has only to construe existing experience, then the general nature of the Free Will, constituting the sphere

of Hegel's Objective Mind, must follow from an analysis, which if not to be called Metaphysical, is in no respect of less validity than that of the Logic. With the view thus implied of the relation of Individuals to Society, the continued existence of given selves in the absolute and *a fortiori* the continued conjunction of given selves as conjoined in the present, ceases to be a requirement. I may add one word on this head, to illustrate the practical superiority of Hegel's view. Family feeling, for instance, as an element in human nature developed within a given society, is not confined to members of family groups, but becomes a general atmosphere, a feature in the social mind, participated in by those who have of their own no existing family. Nor is a free law-abiding will dependent on the particular individuals, nor even on the particular community, among whom or in which we stand. There is no more convincing experience of the power and value of the universal substance than the transference of the essentials of good-will and good-feeling to new particular surroundings.

It follows from what has been said that the distance between present existence and the absolute is for me no argument against the position that the present State is an end in the sense in which I have attempted to explain it. Nor do I see how in any case such an argument could be applied to the State without destroying all ethical, æsthetic and religious experience root and branch, considered, that is, as appearances of the Absolute. We all agree, I presume, that to experience the Absolute would be to have an experience which we have not. But if we have no ranking of appearances with regard to it, no lines of convergence towards it, we have no right to speak of it or of anything; for all knowledge is on one side absolute or nothing. Especially, on Hegel's theory, there would go, along with the Free Will, the whole experience of Art, Philosophy and Religion, which though still more removed from number and particularity are yet developments of the same spirit that lives in the Free Will. I do not say that even for Hegel these are social activities or rest on social relations, but he leaves us in no doubt that they are for him both the development and the foundation of the self-conscious Will.

3. Enough has been said to show how we must regard the third proposition, motived as it is by a clean cut between the actual and the ideal. If the Absolute is actual in its appearances, in the degree in which they present its general character, it seems impossible that any of them should stand to a future perfection—the term "future" seems irresistibly

implied—as mere means to end. The end is surely realised in so far as any character of the Absolute is experienced; and no dream of perfection is possible except through such a partial realisation. The ideal is surely nothing of value except as the spirit of the actual. And in drawing attention to the sharpness of this severance between elements which seemed to us all but the same, we may note what seems a misapprehension in fixing the view on the externals and accidents of society, at the expense of the principle that vehicles of the idea cease to be mere externals. Neither mere matter nor mere time can be experienced in the sphere of Objective Mind.

4. I will end with a few words about the guidance in action to be expected from philosophy. I agree that philosophy as such can tell us nothing constructively of the details of social reform. It tells us neither if in fact a proposed measure will loosen or tighten social bonds, nor if at the moment it is desirable to do the one or the other. Philosophy only construes the actual, and endeavours to elicit from it with more and more completeness the general character of reality, and the value of things in its light.

But yet, I think, it does more than Mr. McTaggart admits. Granting that our immediate grounds of action are to be "empirical" (*i.e.*, I suppose, resting on facts or truths which we cannot yet connect with the main system of knowledge), philosophy teaches us how to experience. For experience, as some one has pregnantly said, is what we experience. And what we experience depends upon what we are, upon our equipment of mind, and on our capacity for receiving ideas. At least philosophy may protect us from superstition and narrowness. It may, I think, do more, but I am content to insist on this. I agree that philosophy by itself can say nothing decisive as to what is best to be done about property and the family. But if, for example, from bad philosophy, or a mental twist equivalent to bad philosophy, measures are proposed on the ground that certain conditions are incompatible, which we know to be in a general way inseparable and reciprocally intensifying, philosophy can abate the presumption, and leave the ground clear for genuine appeals to fact. Here as throughout we are met by Mr. McTaggart's insistence on the remoteness of the ideal, and on our ignorance of the road to it. This view is essentially connected with his attitude to the relation between the Dialectic and the other studies, and his conception of the significance attaching to the change of method in the Dialectic. Enough

has been said to indicate the line which seems to me the true one in face of these contentions. Those especially who will carefully study Hegel's great outburst in the *Philosophy of Right*[1] on the relation of the State to Religion will see how far Mr. McTaggart's spirit differs from his. But this is by itself no proof that his criticism is ill-founded, and I should like to end with the admission that while joining as well as I can in the discussion which has been raised, I believe that we are only beginning to grasp the problems which it involves.

[1] Sect. 270.

II.—A CONTRIBUTION TOWARDS AN IMPROVEMENT IN PSYCHOLOGICAL METHOD.[1] (I.)

By W. McDougall.

PART I.

On Some Deficiencies in Current Methods and Their Source.

Psychology has been and, by some writers, still is defined as the science of conscious processes or affections of consciousness, and the older psychologists described mental life as consisting in the performances of various faculties of the conscious soul or ego. Perhaps the greatest improvement in modern methods of psychological description has resulted from the recognition that these faculties of the soul are but names that concealed our ignorance, and from the consequent reduction of their number, and the limitation of the sphere of action ascribed to them. At the present time the many faculties of the soul have been replaced by a few functions of the mind, such as perception, apperception, attention and volition, and of these it is more or less explicitly recognised by many writers that they are but convenient terms by which we designate very complex processes—networks of cause and effect.

A second very important advance in psychological method in recent times has resulted from the recognition of the fact that it is not only the clear, vivid affections of consciousness with which the science has to deal, but that it must take account of other processes also, processes less easily recognisable by direct introspection, and in fact usually only discoverable indirectly by inference.

The purpose of the present essay is twofold.

Firstly, I wish to point out that current methods of psychological description are still imperfect, because the two improvements mentioned above have not been carried far enough, to urge that some of our leading writers have not

[1] Read before the Aristotelian Society, 29th Nov., 1897.

yet completely freed themselves from the influence of the faculty-psychology, or are still hampered by the definition of their science, as that of conscious processes, and by their reluctance to recognise frankly the importance of the part played in the mind by nerve processes that have no immediate conscious correlates, refusing to admit that there can be no complete science of conscious processes, that the science of mind must give account of both neurosis and psychosis, and that therefore a clear conception, or at least a good working hypothesis of the relation between them, is all-important for psychological method.[1]

Secondly, I wish to attempt a clearer statement than has yet been formulated of the relation between neurosis and psychosis, since, whatever the nature of that relation may be, a clear conception of it seems to be essential to a consistent method of description of mental processes.

The former object may best be attempted by pointing out how the methods of some of the leading writers of the present time differ among themselves, and how these current methods necessarily involve obscurities and inconsistencies, owing to the deficiencies in question.

Critical Remarks on the Methods of Some of the Leading Psychologists of the Present Time.

It will be convenient to preface these remarks with examples of a class of difficulty, in dealing with which the inadequacies of current methods, and the need for a clearer conception of the relation between neurosis and psychosis, are particularly obvious. A common source of difficulty is the adherence to the old definition of mental processes, as necessarily consisting in some kind of affection of consciousness. For we have evidence that there are factors that play a part in determining our actions and our states of consciousness, but which do not directly affect consciousness. How then are these to be described, if not as mental processes?

[1] Throughout this essay I shall use the words 'mind' and 'mental' to denote the sum of all the processes, nervous and conscious, that intervene between the stimulation of any sensory nerve or end-organ, and the passage of nervous impulses to the terminations of the efferent nerves, *i.e.*, the sum of the functions of the nervous system. I am aware that this usage of the words is unusual, but it is, I think, convenient and justifiable, since we have no other word that is used in this sense, while there is an abundance of synonyms for the words 'mind' and 'mental' in their usual rough application. And I shall use the convenient words 'psychosis' and 'neurosis' as used by Huxley, to denote conscious processes and all nervous processes as distinct from conscious processes respectively.

A second difficulty may be stated as follows. An action which, when first performed, is associated with and seems to be the result of conscious processes may, when often repeated, come to be performed unconsciously. What is the difference in the two series of events leading to the same action? And is such an action a result of mental process in the one case, and not in the other? A third difficulty, closely allied to this second one, is that there occur, both in man and animals, simple reflex processes that seem to be wholly unconnected with consciousness, and may be carried out by small isolated parts of the nervous system. Yet we may form a series beginning with such processes and proceeding up to the most completely conscious actions, let us say, a self-conscious act of self-denial, a series in which the members may be so closely similar, that it is impossible to say that at any one point consciousness comes in as a new factor. And such a series may consist of instances of the behaviour of any one man, or of the reactions to stimuli of a series of organisms from the lowest animals up to the highest, man.

Turning now to the criticism of individual methods of description, I wish to point out how Prof. James Ward's article on Psychology in the *British Encyclopædia* is vitiated by the two deficiencies that I have defined above, and shows especially well the logical connexion between them.

Ward recognises three varieties of the Ego: firstly, the metaphysical conception of a soul; secondly, the biological or empirical Ego, and thirdly, the psychological self to which all objects are presented, to which everything mental is referred, the pure Ego or Subject that 'is conscious of everything that is in the mind. The adoption of this hypothesis of the psychological Ego is of course purely a question of method. To ask 'Does such a pure Ego really exist?' would be absurd. This working hypothesis of the pure Ego forms the key-note of Ward's method, and leads logically enough to the refusal to consider physiological factors with or without consciousness, as playing a part in mind (as when he writes on p. 41, 'considerations of method compel us to eliminate physiological implications'), and to the adoption of the hypothesis of sub-consciousness. For, 'whatever admits of psychical reproduction and association' is 'an object presented to a Subject,' and 'the Subject is more or less conscious of what is presented'. Then, since there are mental factors capable of psychical reproduction that are certainly not in consciousness, these must be said to be sub-conscious, in order to avoid what Ward calls 'the contradic-

tion in terms' of the phrase 'unconscious mental modifications'. The contradiction in terms being thus reduced to a contradiction in one term, Ward heroically carries out the method so determined to its logical extreme. As Mr. G. F. Stout points out, this hypothesis is 'in the last degree unnatural and hard to be believed,' yet that is of little moment if it lead to a good method. But, as Stout further points out, it cannot be consistently worked out. For Ward is driven to admit that there is much that is latent in presentations below the threshold of consciousness, that becomes evolved as they rise above it. How then are we to regard these latent factors, do they belong to consciousness of a third kind or degree? Is their 'esse' also 'percipi' by a still wider kind of consciousness? And do these latent factors themselves contain undiscriminated elements perceived by a fourth grade of consciousness?

But there are other and more important drawbacks to this method. The method leads to the classing together of two very different kinds of thing, namely, the passive contents of memory and active processes of the mind that have no immediate conscious correlates. It necessitates, as Ward says, the elimination of physiological implications, a process that, as Bain[1] points out, never has been, and never can be carried out, and leads to the deliberate refusal to seek aid in physiological considerations, although it is now generally admitted that these have given some light on psychological problems, and are likely to give still more. It is ill adapted for making use of the large body of knowledge that is being built up by the methods of psycho-physics. And although the hypothesis of sub-consciousness enables the method to deal with the first two of the difficulties that I have specified, it is completely helpless before the third of them. For it is scarcely possible to hold that the afferent nervous impulses, that determine the emptying of the bladder by a fragment of the spinal cord, cut off from the rest of the central nervous system, form an object presented to the psychological subject, and yet such reflex actions form the lower steps of a series whose higher members are fully conscious mental processes, a series in which no sharp line or break can be pointed out. The hypothesis of the conscious psychological subject, to which everything mental must be referred, fails then to satisfy any one of the three primary necessities of a good working hypothesis. For it does not enable us to describe consistently what has been already

[1] "On Physiological Expression in Psychology," MIND, vol. xvi.

ascertained; it is not well adapted for the discovery of new truth, and it fails to take account of all the facts that must be dealt with.

The adoption of this method, involving such deficiencies, seems to me to be a hampering of psychology by an attempt to adapt the metaphysical conception of the Soul to psychological purposes. The doctrine of the reception of presentations by the Subject, would seem, in fact, to be the last refinement of the faculty-psychology. We are asked to make these sacrifices of method, in order that (to put it somewhat crudely) old-fashioned definitions may be adhered to.

Prof. W. James[1] has done much to secure recognition of those mental factors that aid in determining the course of thought without being clearly discriminated in consciousness, that cannot be directly apprehended by introspection, for the existence of which we have, in fact, only indirect evidence from retrospective observation of the course of the stream of thought. These processes he describes as the 'psychic fringe of thought,' as 'series of faint brain-processes influencing our thought and making it aware of relations and objects but dimly perceived'. But he is unwilling to admit that they are wholly or in part merely brain-changes without conscious accompaniments, for, like Ward, he inclines to attribute consciousness as an accompaniment to all brain-changes, and assumes 'a blank unmediated correspondence, term for term, of the succession of states of consciousness with the succession of total brain-processes'. He frankly rejects any hypothesis of subconsciousness; thus (p. 173): 'There is only one phase in which an idea can be, and that is a fully conscious condition. If it is not in that condition, then it is not at all.' But he continues thus: 'Something else is in its place. The something else may be a merely physical brain-process, or it may be another conscious idea. Either of these things may perform much the same function as the first idea, refer to the same object, and roughly stand in the same relation to the upshot of our thought.' Here then is an admission of the efficiency of unconscious mental factors. And we find this admission repeated. Thus, in formally refuting the proposition that there are unconscious mental states, James writes: 'Thinking of A, we presently find ourselves thinking of C. Now B is the natural logical link between A and C, but we have no consciousness of having thought of B.' 'Either B was consciously there, but the next instant was

[1] *Principles of Psychology*, vol. i.

forgotten, or its brain-tract alone was adequate to do the whole work of coupling A with C, without the idea of B being aroused at all, whether consciously or unconsciously.' The whole of this discussion, directed to the refutation of the existence of unconscious mental states, arises from the fact that he is dominated by the definition of mental states as necessarily states of consciousness, and he devotes twelve pages to proving that mental states cannot be unconscious, while repeatedly admitting in the course of the discussion that mere physical brain-changes, without consciousness, may perform much the same functions as ideas in determining the course of thought. Does he not see that the merely physical brain-changes, whose efficiency he admits, are the unconscious mental states that he is so elaborately refuting; that the whole matter turns upon his implicit definition of the word 'mental'; that there are not three things in question—conscious processes, unconscious mental processes, and merely physical brain-changes, but only two, on the one hand conscious processes and on the other hand nervous processes without consciousness, to which latter we may or may not allow the application of the word 'mental'?

In the course of the same argument James takes up the second of the three difficulties that I have mentioned above, the fact, namely, that fully conscious actions may come to be performed unconsciously. In upholding the doctrine of the non-existence of unconscious mental states, he is driven to put forward the fantastic alternatives, that either these actions are consciously performed, but so quickly and inattentively that no memory of them remains, or that they are performed by split-off fragments of consciousness. How much simpler and more satisfactory to regard these actions as carried out by the merely physical, or, as I would rather say, physiological activity of brain-tracts, whose efficiency he elsewhere recognises!

James does not formally deal with the third of our three difficulties, but in treating of a simple reaction he writes, it is 'a reflex action pure and simple, and not a psychic act'. Presumably then he admits that a simple reflex action may occur without affection of consciousness. And in treating of instincts he writes, that they are of the pure reflex type of action, that 'all the phenomena of instinct are explicable as actions of the nervous system, mechanically discharged by stimuli to the senses' (p. 168). And of man, he writes that he has more instincts than any other animal. All this (excepting the phrase 'mechanically discharged') is, I think, quite accurate, but it is hardly consistent with his state-

ments with regard to the relation between nervous processes and conscious processes.

Similar obscurities and inconsistencies, arising from the attempt to describe mental processes in accordance with these statements, occur frequently throughout his book, and are especially noticeable in his treatment of association and discrimination. Mr. G. F. Stout[1] has pointed them out, showing that James' method logically involves the denial of the possibility of what constantly occurs, namely, the retrospective filling in of the detail of past presentations.

James, too, has not quite freed himself from the primitive tendency to personify complex obscure processes. For though the living active soul is explicitly set aside by him, in his function as a psychologist, yet it is reintroduced, having suffered at his hands a pathetic *reductio ad absurdum* in becoming the passing thought that thinks things or thoughts, or 'the perishing pulses of thought' that may 'recollect and know' (p. 371).

Mr. G. F. Stout begins his recent work on *Analytic Psychology* with a definition of the science that seems to me to promise a very great advance in method. He defines psychology as 'the positive science of mental process,' and further states that mind has an 'unconscious constituent'. And he nowhere invokes the conscious soul, or perishing passing thoughts, as agents that do the work of the mind. The part played by the unconscious constituent of the mind is recognised in various passages. Thus in discussing the analysis of presentations, and the difficulty raised for James and others, by the fact that we may by attention fill out, develop (to adapt a term from photography) the details of past presentations in representation; he concludes that we have to do here with mental dispositions that fall outside the sphere of consciousness (p. 64). Again, in treating of 'Implicit apprehension,' he agrees with M. Ribot that, in the understanding of a word without mental imagery, unconscious processes are involved (p. 83), constituting implicit apprehension. Again, in treating of psychic fringes, he insists upon their very great importance in determining the course of thought (p. 93), in this going further than James; and he describes the psychic fringe as being implicitly apprehended.

Then, since on p. 175 he distinctly states that what exists implicitly does not exist at all, it is fair to take the above passage as meaning that the psychic fringe is of unconscious

[1] *Analytic Psychology.*

processes. And in the two following passages the 'unconscious constituent' receives full recognition: 'Only part of the factors which determine mental processes are definitely recognisable in consciousness. The rest, even if they are not unconscious, are at least undiscriminated' (p. 16), and 'Every assignable instance of psychical activity seems to involve the co-operation of factors which are not modes or states of consciousness, and which are not the immediate physiological correlates of consciousness'.

Yet in spite of these statements, explicit and implied, the word 'mental' is repeatedly used as equivalent to 'conscious,' and the method adopted is to describe all mental process in terms of consciousness, or at least in terms of something other than physiological nervous processes. Thus, while rejecting the hypothesis of sub-consciousness, as used by Ward, as being 'in the last degree unnatural and hard to be believed,' and as leading to inconsistencies, Stout does not frankly adopt the physiological hypothesis, but makes use instead of a doctrine of 'unconscious psychical dispositions'. This is avowedly done on grounds of practical convenience, as conducing to the most useful and effective method, though with the reservation that it is theoretically justifiable. The difference between the hypothesis of 'subconscious states,' as used by Ward, and that of 'unconscious psychical dispositions,' as put forward by Stout, seems to be that the former are regarded as similar in composition, as it were, to past conscious states, as like in kind, but of lower intensity, while the psychical disposition is conceived of as something more massive and complex than any one state of consciousness, as a resultant from many conscious processes. In so far, the latter doctrine seems to me to be still more unnatural and harder to be believed than the former. Yet it must be admitted that this doctrine of psychical dispositions forms the key-note of a method which, in Stout's hands, shows itself highly effective, and which enables him to avoid or surmount many of the difficulties that beset Ward's method. Nevertheless it does, I think, lead to certain obscurities, if not inconsistencies, of statement. Thus, in the passage quoted above, the 'psychic fringe' is said to be implicitly apprehended, *i.e.*, not apprehended at all, and again (p. 182) we read that "the special object of attention at any moment always has a psychic fringe; it is presented as a constituent part or aspect of some kind of whole. This whole itself may be only implicitly apprehended; it perhaps never appears in explicit detail," and again, "the thing as a unity in multiplicity is *present to consciousness* as

a psychic fringe". And the distinction between attention and inattention is said to be coincident with that between noetic and anoetic consciousness, and in the field of conation it is said to be coincident with that between volitional and automatic action.

The obscurities and, shall we say, verbal inconsistencies of these and similar passages, which lead the reader repeatedly to ask himself which of these processes are conscious, which unconscious, might, I think, be removed by a fuller, franker recognition of the part played in mental activity by purely physiological processes, as distinguished from processes involving consciousness, by freeing ourselves entirely from the influence of the definition of psychology as the science of conscious processes, recognising that the flow of mental activity involves physiological processes without, as well as those with, immediately correlated consciousness, and by assigning consciousness only to those processes to which we are compelled to assign it by introspective evidence of its occurrence. If we do this, we shall, I think, admit that all those processes described as subserving implicit apprehension, as being undiscriminated, as not attended to, as automatic, as forming anoetic consciousness,[1] are nervous processes, having no immediate conscious correlates, and we shall regard the unconscious psychical dispositions as physiological dispositions of the brain substance. By so doing we shall not only avoid obscurities of statement, but we shall make this method better fitted for the discovery of new truth. For instead of dealing with consciousness, unconscious psychical factors and nervous processes, we shall describe mental activity more simply, in terms of consciousness and nervous processes only, and shall have a method well adapted for making use of the constantly growing body of physiological knowledge, for throwing light in turn upon physiological problems, and for enabling us to arrive at a clearer understanding of the fundamental problem of the relation of consciousness to nerve processes.

This short examination of the methods of some of the leading contemporary psychologists thus emphasises the importance for psychological method of a clearer conception of the relation between neurosis and psychosis. For if, with Ward, we could ignore the neural processes, and describe mind in terms of conscious processes only, this relation would be a matter of small importance for psychology. But

[1] There is one form of consciousness to which, as it seems to me, this phrase 'anoetic consciousness' is perhaps strictly applicable, and that is the consciousness of pain. To this point I shall return below.

we find that Ward's method involves very great assumptions for which there is no evidence, besides inconsistencies of statement, and, worst of all, it is ill adapted for the discovery of new truth. While if, with James and Stout, we admit, as we must, that unconscious processes play a part in mind, then we find inconsistencies or obscurities arising from the lack of such an accurate conception.

The Doctrine of the Simple Concomitance of Consciousness.

There is a view of the constitution of mind, held by a large and increasing number of writers, which, like that held by Prof. Ward, tends to minimise the importance of the relation of consciousness to neural process. Just as Ward's view seems to be the result of a too exclusive occupation with conscious processes, so this view seems to be the result of an exclusive occupation with nerves and nerve processes. It is the view of the simple concomitance of consciousness (to use Dr. Hughlings Jackson's phrase), that is held by almost all neurologists. According to those who hold this view, consciousness must be regarded as a mere epiphenomenon that in no way affects the course of neural processes; they believe in fact that the latter would run exactly the same course, whether or no consciousness accompany them. If this view were shown to be true, it would still be important to establish, if possible, empirical laws as to the relation of psychosis to neurosis, that we might argue from the former to the latter, and so make use of the study of conscious processes, as an aid to the building up of the science of neurology. But our attitude towards psychology and its methods would be profoundly altered. It is therefore necessary to examine this view of consciousness as the simple concomitant of neural process before proceeding to the attempt to define their relation in any other way.

Psychologists are usually content to reject this view, on the ground that we have an intuitive conviction that our states of consciousness do play a part in determining our actions. But this argument does not weigh with the neurologists, and perhaps rightly so. However that may be, I wish to point out that this view, when critically examined, proves to be at most but an ill-based working hypothesis, which is at variance with some of the widest and best established generalisations of the human mind, and which fails to take account of all the facts. If we can formulate an hypothesis more in harmony with our widest generalisations, and

taking account of more of the facts, then the doctrine of simple concomitance must be given up in its favour.

What then are the grounds for this assumption? So far as I know, they are two, and two only. Firstly, it is said that it is impossible to conceive how consciousness can affect the motion of molecules, and neural processes consist in whole, or in part, of the motions of molecules. Secondly, we know that complex neural processes may, and often do, run their course from sensory organ to motor organ without there being any evidence of accompanying consciousness, and it may perhaps be fairly asserted, actually without any affection of consciousness. The former ground has been put forward with varying degrees of crudity and confidence. We find, on the one hand, Prof. Tyndall asserting, in his famous Belfast Address, that 'we have no organ that can bridge the gap between consciousness and molecular motion'. On the other hand, we find Dr. C. Mercier,[1] who, having assimilated in their crudest forms the doctrine of the molecular constitution of matter, and the mechanical hypotheses of force, exhibits such a familiarity with the behaviour of molecules, as might lead us to suppose him to be one of Clerk Maxwell's demons that have devoted themselves to the sorting of molecules since molecules first began. Having read the works of Mr. Herbert Spencer, he accepts his every tentative suggestion as established fact, and brings the works of that great master into disrepute, by fatuous references to the impossibility of molecules being bound together by thoughts of beef-steaks; setting up as the test of what is possible his own imagination, an imagination which seems to be limited by an imperfect acquaintance with the elementary text-books on physics. Let us grant, for purposes of discussion to those who put forward this argument, that neural process does consist in part or whole of the motion of molecules. It remains true that a molecule is a conception built up by remote and indirect inferences from those reactions of our sense organs, in response to differences of energy between them and their surroundings (as Prof. Ostwald puts it), which form our only means of communication with the outside world; that the motion of molecules constitutes but a very small part of the total energy of which we have knowledge; that the mechanical hypotheses of other forms of energy are far from being applicable to all, or even fully applicable to any one; and that it is just as impossible to conceive how 'gravity' causes two worlds to fall towards

[1] *The Nervous System and the Mind.*

one another, how two masses striking together generate radiant heat, or how one mass striking another can impart to it some of its momentum, as to conceive how the thought of a beef-steak may bind two molecules together. The difference is merely that we are more or less familiar with the utterly mysterious sequences in the former cases, while the last sequence, if it occur, cannot be directly observed, and therefore is not familiar to us. But the answer to this argument is simple and obvious. The neurologists generally do not deny, but assume, as they are bound to do, that the motion of molecules may affect consciousness, may cause the thought of a beef-steak, although we have no organ that can bridge the gap. Yet this causal sequence is as inexplicable as the reverse one would be, and every other one is.

But the more acute supporters of this view take their stand on the second, rather than the former of the two grounds. Thus, Prof. Huxley has definitely enunciated this doctrine of concomitance in his essay on "Animal Automatism," adducing as the grounds for his view instances of complex purposive actions that seem to occur without any affection of consciousness, such as those of a frog whose brain has been destroyed, and of men in abnormal states. The argument seems to be: here are purposive actions of complex character carried out by neural processes, without the occurrence of consciousness, therefore, when consciousness does accompany neural activities, it is highly probable that in these cases also the neural processes alone determine the resulting action, consciousness being merely a bye-product, and as completely without power of modifying the course of the neural processes, as the whistling of a locomotive is without direct influence on the working of its wheels. And Huxley clearly means that a brain could work in exactly the same way with or without consciousness.

I venture to think that Huxley has confused two issues here, that he draws from his premisses two conclusions, only one of which is valid. The valid conclusion is that in all cases there intervenes between stimulation of sensory nerves and the resulting motor innervation, a continuous series of neural processes in the relation of cause and effect; that this series is predetermined by the nature of the afferent nervous impulses and the state of the nervous system at the moment, and that any consciousness accompanying the series is similarly predetermined by the same factors, and neither forms by itself an integral part of the network of cause and effect (*i.e.*, a whole cross section in time) nor intervenes as an uncaused cause to determine in any way the course of the

neural processes. The other conclusion, which is not valid, is, that when consciousness occurs it is without effect of any kind on the brain, and its future possibilities. To establish this it would be necessary to show that neural processes may run exactly the same course in two cases, with and without consciousness, and, further, that the state of the brain after the passage of the neural processes, was exactly the same in the two cases. It is just this that cannot be proved to be true, and I hope to show that the evidence is all the other way.

Turning now to the objections to this doctrine of simple concomitance, and putting aside our immediate intuitive belief in the activity of consciousness as being of doubtful value, the main objections seem to be three in number. Firstly, however we attempt to represent to ourselves this relation of simple concomitance, whether with Huxley and Mr. Shadworth Hodgson we assume that consciousness is caused by neural processes, but in no way reacts upon them, or with Hughlings Jackson and Leibnitz adopt the 'two-clock' or 'two-parallel chains' view of the relation, we cannot bring it into harmony with our general conception of causal sequence, a conception which, subsuming as it does the laws of action and reaction and of the conservation and equivalence of energies, is perhaps the best established of all our generalisations. Huxley seems to forget that the whistling of a locomotive involves an expenditure of part of the potential energy of the coal-bunkers. But this objection has been pointed out by others and is in itself of no very great value, and we therefore need not dwell upon it.

A second well-founded objection to this doctrine is the teleological one. This, like the former, has been put forward by various writers; by Mr. Bradley, among others, in MIND, vol. iv. We have learnt to believe from innumerable instances, among which there is no established exception, that any phenomenon constantly appearing in any group of animals has, or has had, a useful part to play in the development of the individual or the species, and the more constant and widely distributed the phenomenon, the more certain is this inference. This special case of teleology has acquired a strong and reasonable basis in the theory of natural selection. Now there is every reason to believe that consciousness occurs not only in myself, but in other men, and in all the higher animals, and the principle of continuity makes it seem highly probable that it is present in some degree in the lower animals, and even in the very lowest.

It is then very difficult to believe that consciousness has no useful function. Further, it would seem that it is consciousness on which natural selection has chiefly worked, and by which it has attained its greatest triumphs. For when, in the animal scale, we rise above the lower forms, it is the conscious processes that form the scale of the degree of development, and that seem to be all-important in determining the survival of a species or an individual. While in the case of man, the results of the struggle for existence between individuals and between societies, depend almost entirely upon the degree of intensity and complexity of consciousness attained. But a very serious objection to this argument may be made by the neurologists. They may say, 'Ah, yes! quite true, but then it is only the neural processes underlying the psychoses that have been so carefully and laboriously selected; we have shown already that consciousness does but accompany them in a futile mysterious way, and if you wish to give a meaning to it you must suppose that some malign god has set going these conscious processes, in order that men may realise their own misery and learn to laugh at their passing gleams of happiness'. The answer to this objection is not far to seek, and to me it seems conclusive, though I do not know that it has ever been stated. It is embodied in the third and most important objection that I raise against the doctrine of simple concomitance.

If all neural processes were accompanied by consciousness in equal degree, or in proportion to their intensity or complexity, or if some were so accompanied, and others were not, and there could be found no law of the occurrence of consciousness, and especially if it could be shown that a set of neural processes may run the same course with the same results in two cases, one with, the other without, consciousness, then the neurologists would have a very strong case, against which the two arguments set forth would be of no avail. But the fact is, that some neural processes are accompanied by consciousness, and some are not, and the former are constantly different in character, circumstances and results from the latter. Why then, if consciousness plays no part, and neural processes are the only factors in mind, was mind or brain power built up by natural selection so largely out of those that have conscious accompaniments? Why is it that this kind of neural process has come to play a larger and larger part relatively to the other kind, as we trace them in animals higher and higher in the scale of complexity of adaptation to the environment? This argument may be enforced by a further consideration of Huxley's

analogy of the whistling locomotive engine. If the engine whistled frequently and irregularly, sometimes for long, sometimes for short periods, and we could discover no correspondence between its times of whistling and anything in its environment, such as tunnels or railway stations, we should be forced to admit that the whistling seemed to serve no useful purpose, that the train might run just as well or better without it, and we should have to admit that this beautifully constructed machine allowed of a great waste of energy in thus uselessly whistling. But if we had good grounds for believing that it had been carefully prepared and adapted to its work, we should still suspect that the whistling served some useful end, though we could not discover it. But let us modify the analogy a little, and take, instead of a railway engine, a motor-car, and let us suppose that we notice that so long as it runs to and fro in the streets of its own suburb, where it is well known, and where the traffic speedily gets out of its way, it does not whistle, but that whenever it goes out into streets where it has not been before, and is therefore not known, then it whistles loud and long, and has to choose the streets where it can get through most easily. And let us suppose that every time it passes again through these streets the traffic gets out of its way more readily and it whistles less and less until, when it has passed through these districts several times, it runs swiftly on without whistling and without deviating. Then we should conclude that the whistling served some useful end, although it neither drove the piston nor turned the steering wheel, and though, in some streets, the car ran without any whistling. I hope to show in this essay good reason for thinking that consciousness bears to the occurrence of neural processes a relation very similar to that between the whistling and the running of the motor-car. The remainder of this essay will therefore complete the refutation of the doctrine of simple concomitance.

The Views of Psychologists towards the Question of the Relation between Neurosis and Psychosis.

We find then that the doctrine of simple concomitance held by almost all neurologists and 'psycho-physicists' is entirely unsatisfactory. Let us therefore shortly review the opinions of those who reject this doctrine, namely, almost all psychologists, and see whether they offer any more acceptable doctrine.

Psychology is older than physiology by many generations,

and when it was first shown that the processes of mind were largely determined by, and produced their effects by means of, impulses passing along the peripheral nerves and the cord and lower parts of the brain, the current conception seems to have been that the afferent nerves carry impulses into the mind or soul, which being affected by them, and having some of its various faculties aroused, sends out along the efferent nerves the impulses appropriate to the carrying out of its designs. Some such view seems to have been commonly, though loosely, held until cerebral physiology was far advanced, and seems to have been tacitly or expressly held by the earlier experimenters who described a sensory and a motor cortex. But it is now perhaps universally held by neurologists that all or almost all psychical processes accompany and are in some way dependent upon neural processes, and that the latter form a continuous series, *i.e.*, that afferent run on into efferent processes without becoming wholly something not neural process.

Unfortunately the older psychologists were mostly brought up on an exclusive diet of metaphysic, a diet that seems to produce much the same effect as one of patent foods on growing infants, namely, an appearance of much substance covering a rickety skeleton, so when they turned to this problem of the relation of psychosis to neurosis, they usually began by asking, 'What is consciousness?' instead of inquiring, 'When, under what conditions does it occur?' They suggested that a state of consciousness is a modification, an affection of the Soul or Ego, or of a pure and simple substance, or of an immaterial substance or unsubstantial material, or that it is a something attached to each molecule of the brain substance. More subtle are the speculations of those who declare that consciousness is the reality underlying the phenomenal neural processes just as some reality may be supposed to underlie all other phenomena. The futility for psychological method of this class of speculation is well illustrated by an article by Dr. Morton Prince in *Brain*, xiv. His argument runs: 'A state of consciousness is not known in terms of something else, but is known immediately in terms of itself, and is therefore absolutely known (it may well be contended that it is therefore absolutely unknown in any proper sense of the words); it is the ultimate reality and of the real nature of the material world we know nothing—the nerve-process that you assume to accompany or generate my consciousness, is really only a state of your consciousness'. This argument is said by its author to bridge over the chasm between mind and matter, and to give an interpretation of the universe as a

whole, and to be necessarily acceptable, because it does not conflict with any known law. When, from the point of view so reached, he turns to the description of facts, we find that instead of using the term nerve-process we must say 'the unknown activity which is pictured as motion in sensory nerves occasions feeling and other states of mind, and these in turn occasion the unknown activity which is pictured as motion in sensory nerves'. So that Morton Prince really holds the old doctrine that afferent neural processes run into the soul or mind, which in turn emits efferent neural processes, and solves the riddle of the universe by speaking of neural processes as 'unknown activities pictured as motion'. Surely, while recognising the truth implied by this phrase, it is allowable to continue to use the more convenient term neural process.

But the leading psychologists of the present time have accepted the dictum that some neurosis underlies all psychosis, and that the latter is in some way dependent upon and determined by the former, yet they make little serious attempt to define the relation more accurately. Thus Ward, assuming, as we have seen, that all mental processes are affections of consciousness of some kind, states, apparently with approval, that 'of late the tendency has been to make consciousness cover all stages of mental development and all grades of presentation' (p. 48), and again, 'In one respect all psychical changes alike are organically determined, inasmuch as all alike—so far, at least, as we at all know or surmise—have organic concomitants. In another respect no psychical changes are organically determined, inasmuch as physical events and psychical events have no common factors' (p. 43).

Spencer seems to hold that the 'medulla oblongata' is the seat of consciousness, that the immediate physiological correlate of consciousness is the reception by the medullary centres of impulses, from either the sense organ or the higher parts of the brain. He writes, on p. 568,[1] 'that the centre of compound co-ordination to which all centripetal nerves bring their impressions, and from which issue through centrifugal nerves, motor impulses, continues to the last to be the sentient centre. We see that while this centre is the seat of the sensations aroused by external stimuli, and the place in which these are brought into relation with other sensations similarly aroused, it is also the place in which such feelings and relations are feebly re-aroused, in the same

[1] *Principles of Psychology*, vol. i.

combinations and in other combinations, by discharges through the fibres of the overlying cerebral masses. We see, in short, that the medulla oblongata (with its subordinate structures), while played upon through the senses by external objects, is simultaneously played upon by the cerebrum and cerebellum, so producing the thought-consciousness that accompanies sense-consciousness.' His most definite expression as to the evolution of consciousness is on p. 434, where, after describing the earliest evolved nervous actions as reflex and totally unconscious, he writes: 'In its higher forms, Instinct is probably accompanied by a rudimentary consciousness. There cannot be co-ordination of many stimuli without some ganglion through which they are all brought into relation. In the process of bringing them into relation, this ganglion must be subject to the influence of each—must undergo many changes. And the quick successions of changes in a ganglion, implying as it does perpetual experiences of differences and likenesses, constitutes the raw material of consciousness.' The logical implication of these statements seems to be that a developed consciousness consists in a more rapid and varied succession of stimuli, affecting a still smaller ganglion, or perhaps a single nerve-cell, that simple unconscious neural processes become consciousness through increasing complexity of their combinations. It is also implied in these sentences that the unity of the mind, such as it is, may be explained by supposing all the nervous processes concerned to pass through a very small part of the nervous system. In a later part of this essay I shall have occasion to point out why this latter doctrine, which in some form or other is widely entertained, seems to me entirely wrong and harmful.

James, as we have seen, admits the efficiency of brain-changes unaccompanied by consciousness, and yet his view of the relation in question is that 'the bare phenomenon, the immediately known thing which, on the mental side, is in apposition with the entire brain-process, is the state of consciousness,' and he inclines to the view that 'the ascertainment of a blank unmediated correspondence, term for term, of the succession of states of consciousness with the succession of total brain-processes' is 'the last word of a psychology which contents itself with verifiable laws'.

Prof. Wundt seems to adopt a similar view, when he writes: 'The range of consciousness denotes the sum of mental processes existing at a given moment'.[1]

[1] *Human and Animal Psychology*, Titchener's trans., p. 288.

It is perhaps the commonest usage among psychologists to content themselves with speaking of neurosis and psychosis as two aspects of the same thing or process, and to compare their relation to that of the two aspects of a curved line or surface. It is then necessary to assume that neurosis in the cerebrum has this double aspect, while elsewhere, in the cerebellum, bulb and cord, it has only a single aspect. How those who hold this doctrine, while rejecting that of the simple concomitance of consciousness, make any real distinction between the two in their own minds, is a problem too subtle for the present writer.

Others, after pointing out that it is necessary to assume some interaction between neurosis and psychosis, set the whole problem aside as insoluble, but of small importance.

III.—ON THE LOGICAL SUBJECT OF THE PROPOSITION.[1]

By E. C. Benecke.

It will, I presume, be pretty generally admitted that, with the exception, perhaps, of certain impersonals,[2] every proposition that has a meaning (and it is of such only that I wish to speak) is about something and says something about that something. Also, that the former something is the logical subject of the proposition.

Instead of 'something,' it would no doubt be more correct to say 'some thing or things'. A proposition may, of course, be about more things than one, and it may perhaps say more than one thing about it or them. Indeed it is the object of this paper to draw attention to this very fact and to urge the desirability of a fuller discussion of it and of its relation to the logical import of the proposition or judgment than is usual in text-books of logic. But the distinction on which I wish to insist is not that between the singular and the plural subject; and when, to avoid tedious repetition of 'thing or things' and 'it or they,' I speak of the subject as a thing, I no more wish to imply that that thing must be only one than that it must of necessity be a material thing.

I have just said 'proposition or judgment' because many, if not most logicians of the present day, and the Germans almost universally, speak of Judgments and Concepts rather than of Propositions and Terms. Before I come to my subject it may be well that I should briefly explain why I prefer myself to take the other course and why I believe the ends of Logic to be better served by so doing.

(1) In the first place, every judgment may be expressed in a proposition; and it is as so expressed that it assumes its most definite form. While it is only floating in the mind

[1] Read before the Aristotelian Society,

[2] I do not, myself, think that these form any exception, but I put in this qualification to obviate objection.

without having been even mentally expressed, it will always be more or less vague—capable of assuming a variety of forms, in each of which its precise import may be more or less different. If we wish to consider its import—and it is, I take it, with this, and with what depends on it, that Logic is concerned—we ought therefore to have it in that form in which that import is most fixed, in that in which any change of meaning will have to show itself in an obvious change of expression; and our nearest approach to this in ordinary use is the form of the proposition. It is therefore after it has been expressed and is in the form of a proposition that the import of a judgment can best be studied.

(2) In the second place, whatever else Logic may be or do, it certainly also is, or has been held by many to be, an instrument for the detection and prevention of fallacies.[1] Now if judgments are to be explicitly used as premisses in either inference or proof, and if the criteria supplied by logic are to be applied to the argument, they (the judgments) must be expressed, if not in words, at least in some kind of symbols; and it is in the process of putting them into words or symbols and subsequently interpreting them that some of the most frequent fallacies have their origin. It behoves us, therefore, to consider the import of the judgment not only before but also after this operation of putting into symbols has been performed, so that it may become apparent if the import of the judgment has been changed in the process.

(3) In the third place, the use of the word Judgment suggests that we are ourselves judging or have judged the thing asserted to be true. But when the judgment appears as a datum or a premiss, this is not the point that concerns Logic. If I assert, *e.g.*, that 'every B is C and A is B,' then I am logically bound to admit that 'A is C'. That is a distinctively logical point and its correctness is quite

[1] Mr. Bradley and Mr. Bosanquet of course do not admit that it can be this. I may remark in passing that such dicta as the following: "The idea that Logic is a judge of scientific results, able to pass sentence, in virtue of some criterion, upon their validity or invalidity, arises from a deep-lying misconception of the nature of truth" (Bosanquet, *The Essentials of Logic*, p. 47), appear likely to lead the unwary or inexperienced reader to confuse two very different things. That a logician is a proper judge of scientific results simply *qua* logician and without special knowledge will, I presume, hardly be seriously contended by anybody: but if it is a "deep-lying misconception of the nature of truth" to believe that it is not essentially impossible to discover criteria for distinguishing between valid and invalid reasoning and that it is the business of logic to consider the distinction and to endeavour to find such criteria, then it is a misconception to which I must plead guilty.

unaffected, not only by the material truth or falsity of the premisses, but also by my reason for asserting them and by the manner in which I may have arrived at them—whether, *e.g.*, I have judged them to be true myself or am merely repeating what I have been told by another. In such cases the question before Logic appears to be concerned with, not what we really judge or believe to be true, but what is involved in our assertions or beliefs—what we are bound to by our assertions and what we justify others in understanding or inferring when we make them—and the reference to 'judgment' as regards the premisses appears to be irrelevant.

(4) In the fourth place: As a process of thought Judgment is, of course, closely connected with Inference. So closely, indeed, that it is possible to argue that they are in reality the same thing or that the difference between them is a mere question of degree.[1] But the question as to the *import* of a *proposition* is an entirely distinct one from that as to the *validity* of an *inference*. To call the proposition a 'judgment' tends to throw these questions together and to confuse them, and this is much to be deprecated.

(5) In the fifth place: Though Logic has of course to deal with judgments, it should, I take it, deal with them, not as a *process*, not as a *movement of thought*, but as a *product*. The use of the word 'judgment' suggests, if it does not actually assert, the contrary; and does so, I believe, to the detriment of the science. I shall have to refer to this again later.

Logic, it has often been said, has nothing to do with the question whether the propositions that are submitted to it are true or false. Yet a proposition, as an assertion, professes to be true: and it is only as we assert in such a way that our assertions may naturally be understood as intending to state the truth, that we are bound to what they contain. Moreover, if Logic is concerned with the difference between true knowledge and false—or at least with the criteria for distinguishing a true conclusion from a false, a valid argument from a fallacy—it clearly has in some way to do with reality. Consequently, our propositions, so far as they enter into Logic, have a reference to reality. And by the logical subject of a proposition we mean that which the proposition is about. Is, then, the logical subject of every proposition Reality as such, or Reality as a whole? This would appear

[1] Mr. Bosanquet, *e.g.*, often refers to the identity, and in the Preface to his *Essentials of Logic* speaks of "that single development which in some stages we call Judgment and in others Inference". *Cf.* Mr. Hobhouse's discussion in *The Theory of Knowledge*, pp. 219-24.

at first sight to follow, and, as we all know, it is held to be so by some logicians of great authority. But even if this is in a sense true, this is not the sense in which I am speaking of the subject in this paper. In that sense, and for all practical logical purposes, the subject cannot be reality as a whole. It can as a rule be at most some part of reality—reality at some particular point.[1] Reality as a whole, though it may perhaps be indirectly the subject, is not the logical subject of the proposition as this is here understood.[2] But is the logical subject necessarily even a part of reality?

Such propositions as

"Had Cæsar not crossed the Rubicon, the course of subsequent history would probably have been materially different," and

"A square circle would have to combine all the properties of the circle with those of the square,"

are propositions; and as they can form part of arguments it would appear that they cannot be properly excluded from logic. Yet the former refers to a state of things which, as the very expression shows, did not occur; the latter to an impossible figure and therefore pre-eminently to an unreality. If, therefore, the question of the reality of its subjects is a question for logic at all, it will have to consider the relation of such subjects as these to reality.

But what is the logical subject of such a proposition?

We must begin by distinguishing the logical from the *grammatical* subject, *i.e.*, from the nominative before the verb.[3] In "A square circle," etc., indeed, they appear to

[1] This is pointed out by Mr. Bosanquet, who so strongly urges that the true subject is reality as a whole. See, *e.g.*, his *Logic*, vol. i., p. 80 *sqq.*, *The Essentials of Logic*, p. 108, etc.

[2] That is to say, it is not the subject of every proposition. Of course there are propositions of which Reality as a whole is the subject, and the one to which this is a note is one in point.

I should like to add that I do not think that what is meant is very satisfactorily expressed by saying that Reality as a whole is the *subject* of the proposition. Is not 'This is true in the world of reality' rather a general understanding as to the sense in which our assertions are to be made and taken than a part of the assertion itself? Or if it is to be taken as part of the proposition, tacitly understood, may it not be considered part of the predicate rather than of the subject? In that "continuous affirmation of consciousness" of which Mr. Bosanquet speaks on pp. 40-41 of his *Essentials of Logic* it appears to me that we do not "predicate the whole of Reality of itself," but rather predicate of the objects in question that they, together with others, make up our real world.

[3] That this is what they mean by 'Subject' does not as a rule appear from the definitions of grammarians, but is very evident in their practice. *E.g.*, when Kühner says (*Gr. Gram.* § 413, 3) that the 'subject' of 'Achilles killed Hector' is Achilles, the 'subject' of 'Hector was killed

coincide. We are there perhaps speaking of 'square circles,' and if so they are the logical subject according to our definition. But what is the logical subject of 'Had Cæsar not crossed the Rubicon,' etc.? Is it 'the course of subsequent history'? If so, subsequent to what? To an event which, in that case, would not have taken place? Or if we mean subsequent to the year 49 B.C., is it the actual course of subsequent history? or an imaginary other course? or what? The logical subject would probably not be the grammatical subject of the antecedent clause, 'Cæsar'. But if we take this antecedent clause by itself as a separate proposition, what is *its* subject? It has been argued that the true subject of the proposition 'Cæsar crossed the Rubicon' is not 'Cæsar' generally, but 'Cæsar crossing the Rubicon'.[1] If so, is the subject of our antecedent proposition 'Cæsar, *not* crossing the Rubicon'?[2] And if so what does this mean? Surely not 'Cæsar at any other period of his life' (*e.g.*, in the Senate at Rome); nor 'Cæsar during the whole of his life, except when he was crossing the Rubicon'. Is it, then, another and imagined Cæsar, precisely like the actual C. Julius Cæsar, except that this one did not cross the Rubicon? Hardly this either.[3]

Obviously, then, the grammatical subject, though it may be, and perhaps usually is, also the logical subject, cannot without more ado be taken to be so; and our first question would therefore be, How can we determine what is the logical subject of a proposition? The quasi-definition with

by Achilles' is Hector; when Buttmann says (*Gr. Gram.* § 129, 16) that in Demosthenes' phrase ἀναγνώσεται ὑμῖν the 'subject' is ὁ ἀναγνώστης understood; when Zumpt says (*Lat. Gram.* § 69, 5, N. 3) that in Cic. *ad Att.* 7, 14, "Tu ipse cum Sexto scire velim quid cogites" the 'subject' is "tu ipse," they are clearly thinking only of the relation of the nominative to the verb. Demosthenes is not speaking about the reader, but about the law; Cicero is not telling Atticus about himself (Atticus), but about his own curiosity; and in Kühner's example, if, as he holds, the meaning is not changed by the change of form of the proposition, the logical subject is not necessarily changed either.

[1] Lotze, *Logik*, § 58.

[2] Lotze himself, indeed, says (§ 40) that the relation affirmed in the affirmative and denied in the corresponding negative proposition is the *same* relation, so that it would appear that the subjects of the two must be the same. But then, according to the theory, it would seem impossible that the negative could ever be true. If 'A is B' means 'the A that is B, is B,' its negative must on these terms always be false, for 'the A that is B, is not B' cannot possibly be true.

[3] I need hardly say that I do not mean that the logical subject of the proposition, "Had Cæsar not crossed the Rubicon," etc., is really any of the various subjects just suggested. I suppose it is probably the gravity or the momentous consequences of Cæsar's act, though without the context it is impossible to say.

which we began has already furnished us with an answer. We must consider what the proposition is really about—what it is about which the assertion contained in the proposition is made. This will be its subject.

For simplicity let us for the present put on one side our question of the possibility of unreality in the subject and the examples introduced to illustrate it, and let us take some propositions with manifestly real subjects; *e.g.*:—

'A horse is a mammal.'

'Socrates died in the year 399 B.C.'

'A diameter of a circle is a straight line drawn through the centre and terminated both ways by the circumference.'

In such cases as these the grammatical is probably also the logical subject of the proposition. We are making assertions about 'horses,' 'Socrates' and 'diameters of circles' respectively. In the following, *e.g.*:—

'Two straight lines cannot enclose a space';

'A circle may be described from any centre at any distance from that centre';

'Hull lies due north of London,'

the matter becomes more doubtful. Is our assertion, *e.g.*, about two straight lines? or about the relation of any two straight lines to the enclosure of space? or about the nature of the space we have to deal with?—about a circle? or about our assumed right to suppose any circle described which we may require?—about Hull? or about the relative positions of Hull and London? or about the position of either one of these cities (that of the other being supposed known)? or about the direction in which you must travel from London in order to reach Hull? or about what?

In such propositions as:—

'You do not meet a man but frowns';

'Every schoolboy knows that Julius Cæsar was murdered on the Ides of March, 44 B.C.,' etc.,

the logical and the grammatical subjects appear to have altogether parted company. The propounder of the former assertion is not speaking about 'you,' but about something entirely different: the proposition, 'Every schoolboy knows,' etc., is not intended to give us information about schoolboys and would manifestly be absurdly untrue if it were taken as supplying it.

Yet it is obvious that the assertor of the proposition, 'You do not meet a man but frowns,' *might* have intended 'you' to be understood to be the subject of the proposition. He might have intended to say that you have the unfortunate peculi-

arity that no one meets you without a frown. Indeed it is only by inference, either from the context or from intrinsic probability or from the speaker's known or presumed sentiments or from some other premisses, that we can in such a case tell what such a proposition is really about, *i.e.*, what its logical subject is.

It would seem then that, as indeed we all know, the meaning of a proposition may vary according to its context or according to the intention of the speaker in uttering it, and that, if so, my first reason for preferring the use of the word Proposition to that of Judgment is not so valid as it at first appeared.

To this it may be replied :—

(1) In the first place, that it is at least relatively valid, for that it is only after the assertion *has been made* that any hearer or reader can draw inferences from it or consider what you mean by it at all; only after it has at least been mentally made or suggested (*i.e.*, when it is at least a mental proposition, no longer a judgment in process of formation) that the thinker can himself consider all that it will bind him to, and whether therefore he can and will assert and abide by it or not.

(2) In the second place, that though the context has to show in what sense we mean our proposition to be understood and to guide the reader or hearer as to the inference he ought to draw from our assertion, nevertheless we are formally bound by all that it really implies. The assertor of 'Every schoolboy knows that Julius Cæsar was murdered in 44 B.C.' could not, formally, complain if I draw from it the inference 'Therefore A. B., being a schoolboy, knows it,' and ask him whether he will stand to this conclusion. Yet he will not unjustly be annoyed at a frivolous objection of this kind; and clearly the logical mind is the one that does not bring forward such quibbles but draws from any such assertion the inferences appropriate to the matter in hand.

This, however, leads to two considerations of some importance to the logician :—

1. If many propositions require a reference to context to determine their meaning and the inferences properly to be drawn from them, and if the examples to be found in the text-books are, as of course they must be, given without any context, these latter ought surely to be so chosen that they show their meaning without context as clearly as possible.

The older logicians for the most part endeavoured to secure this by putting their examples into the Subject-Copula-Predicate form (A, E, I, O). Recent logicians are often disposed

to ridicule this practice; and some (Mr. Bradley, for instance) studiously choose their examples in the slipshod style of ordinary conversation and thought (but of course without the correcting context).[1] I confess that to me this appears to be the reverse of an improvement.

2. The second consideration referred to, naturally presents itself in the form of a question. I said that the logical mind is the mind which draws from assertions the inferences appropriate to the matter in hand (which therefore understands what is said to it in the right sense); and by calling it "logical" we certainly imply that the inferences will be correctly drawn. But if so, what is really the meaning of the adjective "logical"? In other words, What is Logic? If in his investigations a logician considers thought generally, is he acting solely as a logician? If not, in what part of his investigations is he acting as a logician proper, and in what part in some other capacity, *e.g.*, as a psychologist?

To those who themselves possess sufficient knowledge it is, no doubt, very tempting to regard Logic as treating of the entire process of "the mental construction of reality"—to let it embrace the entire theory of general knowledge, including that of all the processes by which it is arrived at on the one hand, and the complete methodology of the sciences on the other. We have high authority for so defining Logic, and certainly I have no quarrel with, but much gratitude to, the authors of the great works with which we are all more or less familiar on that very extensive and fascinating subject. But I cannot help regarding it as

[1] The resulting vagueness is sometimes so great as to render the correctness of the conclusion quite doubtful. Take, for example, "A is due north of B, B due west of C, therefore A is north-west of C" (Bradley, *Logic*, p. 226). This is really one of the more carefully worded of the examples, since by saying "due north," etc., in the premisses Mr. Bradley shows that by "north-west" he does not mean due "north-west" in the conclusion. But what does he mean by it? If anything at all near that point of the compass, the inference is clearly not at all valid. A might just as well be north-by-west or west-by-north, or still nearer either north or west of C. The inference will be valid only if by "north-west" we mean "anywhere west of due north and north of due west". Indeed, in the inexact way in which we usually speak, and in which Mr. Bradley takes every opportunity of showing that he wishes his examples to be understood, we cannot say that even this follows unless we know something of the relative distances of A and C from B. *E.g.*, suppose Grimsby to be, in ordinary parlance, due north of London, and London due west of Greenwich; it would be absurd to say, "Therefore Grimsby is north-west of Greenwich". The course of a conversation would probably leave no doubt as to such points, and we should not be wrong in admitting or rejecting the conclusion; but in an example thus standing by itself there is nothing to show whether it is right or not.

unfortunate that they should have chosen the word Logic as the name of the entire branch of knowledge of which those works treat. I think it unfortunate not only because it is manifestly undesirable that quite different subjects should be called by the same name, so that that name should always require the addition of some explanatory words to inform us what is really meant by it, but also because if Logic is understood in the extremely wide sense just spoken of it seems to me very difficult if not impossible to draw any clear line between it and some other sciences, particularly Psychology. I may add that the way in which the adjective "logical" is often used by the authors of those of the works above referred to which treat the subject with a view rather to the body of the sciences than to general speculation and metaphysics, appears to me to show that they also usually regard the word "Logic" as really meaning something much narrower than their definitions would lead one to expect, and that such discrepancy is in itself undesirable. It is, of course, impossible that I should adequately discuss the question of the most convenient definition of Logic in the small space here at my disposal. Nevertheless I must say a few words at least on the sense in which I use the word in this paper, since the position occupied in Logic by the proposition and its logical subject will of course depend greatly on the view we take of what Logic is and of what it should attempt to achieve. The object of the following few remarks is, therefore, not to determine where the limits of the science ought to be drawn, and much less to say that logicians have generally agreed in drawing them where I suggest (this would indeed be a hopeless attempt, since there are probably few things as to which logicians are less in accord), but simply to point out where I draw them for the purposes of this paper and to explain why I do so.

What shall be the subject and the limits of a science of course depends on those who frame and develop that science. But it is obviously very desirable that it should have clearly defined limits, and that those limits should be so drawn that the science does not clash with its neighbours. For two distinct sciences, or even two distinct parts of the same science, to endeavour to answer precisely the same question would clearly be not only a waste of time and labour, but also in other ways undesirable. Now it will, I presume, be generally admitted that the consideration of the laws according to which thought naturally proceeds and according to which we find ourselves as a matter of fact thinking now about one thing, now about another—such laws as

the Laws of Association, the laws by which we expect such phenomena, such conjunctions and sequences as we have once experienced to occur again, etc., etc.—belongs in the first instance to *Psychology*. What, then, is their relation to Logic? The question for Logic with regard to them is, whether they lead to a right or a wrong result. But the laws, as psychological laws, are the same in the one case as in the other. The difference must lie in the conditions. Consequently it would appear that, accepting these laws from Psychology, Logic must have as its own subject the consideration of the conditions, or of the difference between the conditions, which lead respectively to true and false results, and of the grounds on which they are to be taken to do so.

This, however, would still be too wide for a definition. One of the main conditions of the truth of the result is, of course, that the facts with which we start be real facts—that the premisses from which we reason be true. This, however, does not, I conceive, come under the consideration of Logic (or does so only if it becomes a question of the validity of the mental processes by which they were arrived at, in which case we have a preliminary inquiry, in which these premisses are conclusions). It does not come under the consideration of Logic, but belongs either to our ordinary experience or to some one of the special sciences, according to the class of subject considered and the kind of conclusion (its degree of accuracy, etc.) desired.

The question of the truth of the premisses being excluded, the subject of Logic would thus appear to be confined to the *conditions under which the mental processes by which conclusions from given premisses*[1] *are reached, are valid* and the *grounds* of such validity.

Logic, I take it, is not an art—not, for instance, the art of correct thinking or the art of proof—but a science.[2] Nevertheless, like all other sciences, it aims at practical results; and the end of the logician when he draws up rules—his rules of conversion, of syllogistic reasoning, etc.—is, that they should help us in arriving at true conclusions and in avoiding the false.[3] Now if we consider it first in this

[1] Understanding this in a wide sense, to include data of all kinds.

[2] Of course it has often been described as an art. Even Mill sometimes so describes it (*e.g. Exam. of Hamilton's Philos.*, pp. 462, 464, etc.), and no less a recent authority than Prof. Sigwart declares it to be essentially "Kunstlehre des Denkens" (*Logik*, §§ 1 *sqq.*). If it is so, the following remarks apply with still greater force.

[3] I presume that neither Mr. Bradley nor Mr. Bosanquet would deny that such hopes have inspired many who have attempted to improve

practical aspect, how can Logic set about achieving this object? By pointing out the course which our thoughts should take and supplying the impulse that will carry them along it? No doubt this would be the most effective manner if it were possible; but it very obviously is not so. Before the logician could direct the discoverer's thoughts in this positive manner he would have to know the end to be arrived at himself:[1] and the impulse and mental force, and the laws according to which our thoughts proceed, now in this direction now in that, are phenomena which Psychology has to discover and to describe, but which neither Psychology nor Logic can prescribe. No man ever thought consciously by rule any more than anybody ever made music by considering, while performing, the mathematical relations of the intervals; and the rules furnished by Logic should be looked on, not as injunctions how a man ought to think or as instructions as to the channels into which he should direct his thoughts, but rather as an aid to *controlling* the thoughts when made, or as they rise before the mind, eliminating errors of conception and reasoning (as distinguished from errors of datum), and thus assuring, so far as in him lies, the correctness of the result.

If understood in this manner, what Logic can supply is a restraining rather than a driving force, a drag rather than a spur. It is comparable to the governor rather than to the boiler of the engine, to the signalman and the switchman rather than to the engine-driver on the railway. The free course of our thoughts is constantly being modified, and the thoughts carried in one direction rather than another by collision with other thoughts, and with previously determined results with which they have to be brought into harmony. It is Logic—the logic of practical good sense aided by the logic of science in those who are masters of the latter—which brings about such harmony, and tells us in how far any result arrived at may be trusted, or warns us if something is still wanting without which such trust should not be reposed. This it achieves by means of its great Principles, the Laws of Contradiction and Identity, the Principle of Excluded Middle, the Postulates of the Con-

or to teach logical procedure, including probably the authors of the mnemonic lines, etc., though they hold that such hopes were necessarily doomed to disappointment.

[1] The teacher may be able to direct his pupil's thoughts in this way; but it is only because he knows the result at which he desires him to arrive. In the case of original thought, discovery, etc., any rules to effect this are of course out of the question.

sistency of things and the Intelligibility of Nature, the Principle of Sufficient Reason, etc., etc.[1] The laws and the rules based thereon, which good sense practically follows of its own accord, are, or should be, drawn up and consolidated by scientific Logic in its great Inductive and Deductive Methods.

The establishment of any belief falls into two parts, which are as a rule closely intertwined but which can be distinguished in theory, *viz.:* (1) the actual *acquisition* of the belief—the movement from suggestion to suggestion, from judgment to judgment, from thought to thought—including the process of search when the belief refers to any matter investigated of set purpose; and (2) its *substantiation* when found. If the line between Logic and other sciences were so drawn that the theory of the former part, which we may here briefly call the *Inference*, should fall wholly outside of Logic, while the theory of the *Proof*—of the establishment or rejection of the belief thus arrived at, or of the suggestion made—should fall, as regards its formal elements, wholly within it, and should form the centre of the subject-matter of the science, Logic would rightly be described as a *science of Proof*—a body of doctrine referring to the validity of mental processes, to the true dependence of one set of propositions or judgments on another or of any mental product on its grounds, and, with a view to this, to the full import of propositions and of their constituent parts. In this way the spheres of Logic and of other sciences, and of Psychology in particular, would be quite distinct. The phenomena presented by Nature (including Mind) and Art are considered generally by our common philosophy of experience and of everyday life and, from the scientific point of view, by the special sciences. Through their means are supplied both the material data and the inferences, which it belongs to and is the business of Philosophy to endeavour to weld into a consistent whole. To Psychology belongs, among other matters, the consideration of the laws according to which the mind does as a matter of fact proceed, both in science and in ordinary thought, from data to inference, from antecedent to consequent. But it does not fall within the province of Psychology to consider either whether the several inferences thus arrived at *are valid*, or how they may be made so. Each science (and psychology among the number) is, no doubt,

[1] How it is possible for any principles or any conceptions to affect the course of our thoughts and the resulting beliefs at all, it is of course for Psychology to consider.

bound to do this as regards *its own inferences*, but not as regards the general principles on which such validity rests; and, apart from other inconveniences, there would manifestly be a great loss of time and trouble if each science were obliged either to seek such principles for itself or to grope in the dark without them.[1] Here, then, is a place which one would *a priori* expect to see occupied by some independent science, and which, indeed, must necessarily be so occupied in any complete system of sciences. And though a large proportion of those who have taught the science may, no doubt, have desired that it should also do a great deal more, this, if I mistake not, is the place which Logic has always endeavoured to fill, and in which, with all its shortcomings, it has always done good service.

So far as the present paper is concerned the point of the above remarks on the functions of Logic is, that Logic, as here conceived, has nothing to do either with the psychological laws according to which the mind is carried forward and impelled to produce ever fresh results, nor with the relation to reality of the data from which any particular mental process starts, whether these be physical or metaphysical, but deals only with *results*—the validity of the processes by which they have been arrived at, their dependence on the grounds given or mentally to be supplied for them, their compatibility or incompatibility with other results previously arrived at and held to be true, etc. I need hardly add that of course I do not mean by this that the whole of the process which Psychology has to explain must be completed first and then submitted to Logic for verification. On the contrary, Logic, natural or scientific, accompanies, or ought to accompany, the process and should exercise its restraining and correcting influence from the very beginning, and in the thoroughly logical or logically trained mind acts so automatically that the very suggestion of inferences that offend against its canons, of conceptions which contain contradictions, etc., is immediately checked and such suggestions do not come consciously before the mind at all.

This view of Logic is, of course, very much narrower than that which is very extensively held at present, and I confess that it is very much less attractive. I cannot attempt

[1] Of course if no such principles are possible, Logic cannot find or supply them. But if so, it would be well that this should be settled once for all, so that no one should lose valuable time by looking for them in the future. Even so, therefore, the labours of Logic in looking for them would not have been wholly lost, though it would of course incur a considerable responsibility by teaching this negative result.

further to justify it here, but must ask those who are doing me the honour of listening to this paper to bear in mind that, whether rightly or wrongly, it is from this point of view that it is written. And according to this view it is for Logic to consider the material of proof, to insist that this be given to it in a form in which its import can be tested (*i.e.*, in the form of propositions or of something equivalent to them) and to endeavour to determine the general import of propositions in their various forms.

The above digression appeared to be necessary, but has taken up so much of my space that comparatively little remains for my main subject, to which I now return.

How, then, is Logic, as here conceived, which has to deal with the import of propositions, concerned in the determination of their subject? And first, What, in general, *is* the import of a proposition? The answer is, The complete assertion or assertions which it contains. But then, What is that assertion, or those assertions? This obviously depends partly on the import of the terms, partly on the form of the proposition. Take, *e.g.*, the A form so familiar to the logician, "Every X is Y". If X and Y are concrete terms (each therefore having both a denotation and a connotation) this makes at least the following assertions:—

1. 'Every thing to which the name X is applicable is also a thing to which the name Y is applicable.' (This might be called the *Denotative-denotative* meaning.)

2. 'Every thing to which the name X is applicable has all the attributes connoted by the name Y.' (The *Denotative-connotative* meaning.)

3. 'Wherever (within the universe[1] in question) we have the whole of the attributes connoted by the name X, we have one of the things to which the name Y is applicable.' (The *Connotative-denotative* meaning.)

4. 'Wherever (within the universe in question) we have the whole of the attributes connoted by the name X, we have also (or as a part of them) the whole and each one of the attributes connoted by the name Y.' (The *Connotative-connotative* meaning.)

[1] Here, and elsewhere, I use the word "universe" in the sense in which that term was introduced into Logic by De Morgan—the sense in which I believe it is usually understood by English logicians, *e.g.*, by Jevons (*Pr. of Sc.*, p. 43, and elsewhere), Dr. Venn (see his *Symbolic Logic*, chap. viii., etc.), etc.—not in the sense explained by Mr. Stout in his *Analytic Psychology*, vol. ii., p. 212, where it is equivalent to "what in ordinary language is called a subject or topic". I may mention that I had not seen Mr. Stout's work when this paper was written.

5. 'Within the universe in question there exists nothing to which the name X is applicable (or which has the whole of the attributes connoted by X) which has not the attributes connoted by Y.' (The Existential meaning.)

And others.[1] Now when we say 'Every X is Y,' we have probably only one such meaning in our mind, and, if we are arguing, it is only in that particular sense that we intend the assertion to enter into the argument. Yet by making the assertion we have really asserted the proposition in *every one* of the above meanings (and also in every other meaning which the proposition may have) and are therefore logically bound to all that follows from it in any one of those meanings. This of course complicates the problem before Logic, which has to consider generally what our assertions bind us to and the conditions under which we are, or are not, justified in making them or in drawing this or that conclusion from them. This complication, however, causes practically little inconvenience, because it is easily seen that everything that follows from the above proposition in any one of the above senses, follows from it also in any of the others, so that it is logically immaterial whether the logician in drawing up his formulæ and in formulating his laws has the proposition before his mind in the one sense or in the other. But observe, it is here taken for granted *that we know what is the subject* (and consequently also what is the predicate) of the proposition. We have taken X to be the subject, Y the predicate; and it is *with this presupposition* that Logic introduces propositions of this form (and similarly of the forms E, I and O) into its formulæ. So soon as there is any doubt on this point, the matter assumes a complication which renders the formulation of any general laws of mutual implication and the drawing up of any kind of reliable formulæ very difficult, if not impossible, and in any case makes the application of them so troublesome that it requires the introduction, say, of a special set of symbols and of processes of calculation which have to be set out on paper (as is the case in Symbolic Logic), and it thus becomes useless for the guidance of thought even in the negative manner already referred to.

[1] Of course there are other meanings; *e.g.*, the familiar ones: 'Possession of the whole of the attributes connoted by X *is a mark* of possession of the attributes connoted by Y'. 'Non-possession of any of the attributes connoted by Y *is a mark* of non-possession of some, at least, of the attributes connoted by X.' 'The X's that are Y are all the X's.' 'That every X is Y is true,' or 'is a fact in the universe,' etc. It is not necessary for my present purpose that I should attempt to make a complete list of such meanings.

Perhaps a simple general example will bring this out most clearly. Suppose that A connotes the group of attributes α, B the group of attributes β, that not-D connotes absence of at least a part of the group of attributes δ, that ABC not-D[1] connotes the group of attributes $\alpha + \beta + \gamma$ and absence of at least a part of group δ, and so on. Then it is clear that (provided that I know that there are any ABC not-D's in the universe in question) if I assert 'Every ABC not-D is K not-LMN'[2] I am thereby asserting, among other things,—

'Some[3] A's are K' (or 'have the attributes κ');

'Some A's are not-LN' (or 'have the attributes ν, but not all the attributes λ');

'Some B's are not L;'

'Some BC's are KM not-L;'

'Some B's that have not the attribute δ are M,' etc., etc., etc.

All this is very obvious; *i.e.*, it is obvious that in making even so simple an assertion as this we are, in effect, making a great number of different assertions with different subjects and different predicates. But it is as obvious that a formula which should take cognisance of all this—which should show exactly what propositions of this or other kinds are involved in a combination of such propositions as even 'Every ABC is XYZ'—would necessarily be very complicated, and that Logic, which, as practical, aims, not at following thought in all its short cuts, but at giving *simple* formulæ, capable of easy application, is justified in saying, as in effect the older logicians do: 'If you wish Logic to assist you in deciding whether you are justified in drawing a certain conclusion from certain premisses, you must present that conclusion in a form in which there can be no doubt as to what is its subject and what its predicate. If you will then also so state your premisses that that subject, wherever it occurs, is clearly separated (either as subject or as predicate) from the rest of the content of the respective propositions, and similarly the predicate of the desired conclusion wherever it occurs, then,

[1] Or, A not-DBC, or in any other order.

[2] *E.g.*, 'Every rectilineal figure whose internal angles are together equal to two right angles and two, but not all, of whose angles are equal to one another, is a plane, not equilateral but isosceles triangle'. But there is no need to take so complicated an example; for as most concrete names connote a number of positive and negative attributes, 'X is Y' can nearly always be put into many such forms. *E.g.*, 'Every man is mortal' may be read 'Every animal that has human form and reason but not infallibility, is a something that lives for a time, but not for ever'.

[3] Of course in such cases 'Some' means 'Some at least,' not 'Some only'.

if Logic were perfect, its formulæ ought to be able to tell you whether you are right in drawing your conclusion or not, and in the latter case what is still wanting to enable you to do so. They are at fault if they cannot do this. But if you will not take this trouble, but present your premisses with the subject and predicate of your conclusion all mixed up in them, then you are asking too much in requiring Logic to provide you with a formula which can answer your question.'

It is, perhaps, hardly necessary to say that the thinker does not, as a matter of fact, come to the logician with any such question as is here suggested. The practical difficulties with which the thinker or the discoverer is confronted are seldom, if ever, such as the logician as such could solve; and if he is guilty of a fallacy, which of course is not impossible, he will not be aware of it and therefore will not appeal to the logician to help him out of it. But this no more proves that Logic has been of no use to him and that the labours of the long line of eminent thinkers who have devoted their energies to the theory of Logic, pure and applied, have been of no effect on the thought of the present day, than the fact that the musician does not go for advice to the physicist proves that the mathematical theory of harmony has been without effect on the theory and practice of music. The reproach that theory lags behind and does not assist practice, is not peculiar to Logic. It is the charge so commonly brought against abstract thought of whatever kind that Schiller's "philosopher" really seems to be but little exaggerating the common view when he describes the great achievement of the abstract thinker, be he a Locke or a Descartes, as consisting in showing, after a thing has been successfully accomplished without his aid, that it was not impossible to do it.

To return to our subject: In such a proposition as 'Every X is Y,' X and Y are marked out by the form as subject and predicate respectively, and it is but a small thing for Logic to ask that these only should be treated as subject and predicate and that no change should be made in this respect without a corresponding change in the proposition itself.[1] This, indeed, is so natural a demand that it is usually taken for granted and nothing is said about it. But, as we have already seen, in some other forms the distinction is not so

[1] That if, *e.g.*, X is ABCD, the proposition "Every X is Y" is not, without more ado, to be taken as a proposition about A, or about Y, or about any attribute (*k*) of Y—though of course it may be convenient to *thought* so to take it.

clear and may be open to question.[1] Logic is right in demanding that in the propositions submitted to it the distinction should be clearly made, even if it should be necessary to *alter the form of the proposition* for this purpose.

This altering of the form of the proposition is, of course, a delicate operation, since the import (so far as the argument is concerned) must not be affected thereby; and if it is by a happy instinct that logicians, from Aristotle onwards, have for the most part considered the concatenation of propositions in the Subject-Copula-Predicate forms (A, E, I and O) only, or in these together with hypothetical propositions in such forms as—

If A is B, it is C;
If A is B, C is D, etc.,

which have for logic special advantages of their own, it is certainly a grave omission on their part not to have given more attention to the relation of these to the precise import of propositions in the various other forms in which they frequently occur and not to have shown how the transformation can be safely effected. My paper is already too long. It is of course out of the question that I should discuss this here. I believe that, though it may probably require what Prof. Wundt calls "the Shifting of the Categories,"[2] any proposition whatever may be put into the Subject-Copula-Predicate form 'A is (or is not) B'[3]—probably with the loss of the greater part if not all of its rhetorical force but without any alteration of its actual import as a link in the chain of the argument in which it occurs, and this is all that Logic need concern itself about. Logic is not Rhetoric, and their ends are not the same.

Before closing I should like still to refer very briefly to two points:—

1. The assertion of the possibility of the transformation of any proposition to the Subject-Copula-Predicate form of

[1] I am very glad to find a reference to this possible uncertainty as to the logical subject in Mr. Hobhouse's *Theory of Knowledge* (p. 156)—the first reference to this that I remember to have met with in any work on Logic. Mr. Stout's interesting remarks (*Analytic Psychology*, vol. ii., pp. 213-14) are of course from a different point of view—the point of view of the psychologist.

[2] "Die kategoriale Verschiebung der Begriffe." See Wundt, *Logik*, vol. i., pp. 107 *sqq.*, p. 142, etc.

[3] It would, indeed, probably not be correct to say that every proposition can be so changed into a single proposition of this form. It may require more than one to express it. But these are details into which I cannot enter here.

course rests on the assumption that the copula 'is' *does not assert identity in all respects.*

In some respects of course it does so. 'Socrates is mortal' asserts that 'Socrates' and 'one particular mortal being' are numerically and in every way the same object; 'All men are mortal' asserts that the objects composing the first-named class and at least some of those composing the second are numerically and in every way the same objects. Again it asserts that the attributes or properties connoted by the predicate-name are some (at least) of the attributes or properties of the objects denoted by the subject-name. The implication of these kinds of identity does not interfere with the possibility of the transformation referred to, though it may oblige us to interpret the terms 'attribute' or 'property' in a wider sense than is customary. But the possibility of the transformation does rest on the assumption that the proposition 'A (or every A) is B,' as it does not assert (though neither does it deny) that the name A denotes every object denoted by the name B, so also it does not assert (though neither does it deny) that the attributes or properties connoted by the name B are the whole of the attributes or properties of the object or objects denoted by A. That it does neither the one nor the other seems so obvious that I should not refer to this assumption at all were it not for the difficulty which the conception appears sometimes to cause.

I cannot refrain from adding that it would, I think, be by no means an advantage to thought that the connotation and denotation of the subject and predicate of propositions of the A form should always be exactly the same. To reduce all propositions of the form 'X is Y' to 'X that is Y is Y that is X,' is not at all a goal that Logic should strive to reach.

2. Whether or not our propositions assert *reality* or *existence* (in the ordinary sense of those words) depends on the logical subject and on our knowledge of it and of its relation to the particular universe in question.

That this is so comes out clearly when we attempt to convert or infer from propositions with non-existent or impossible subjects, and shows that a word of caution ought to be given with some familiar logical rules. Thus, if our universe is our actual world, we may perhaps say with truth, 'All [or some] witches are old women'. We mean, 'If there are any witches (which we believe not to be the case) they are all (or some of them are) old women'. But we cannot convert and say, 'Some old women are witches,' because in our universe there are old women in existence,

and we believe that none of them are witches. So we may perhaps say, 'Every circular cube is a plane solid'. If unmeaning, this is not necessarily untrue. But we cannot infer, 'Some cubes are plane [figures]'; 'Some circular [figures] are plane solids,' etc. These subjects exist, and the propositions are untrue. The occurrence in the premisses of a proposition with a non-existent subject may render syllogisms in the Third and Fourth Figures invalid. And so on. Now this danger, so far as it goes, is certainly an additional reason of weight from the point of view of Formal Logic for accurately determining the subject of any proposition which is to be used as a premiss, and for considering its relation to reality whenever there is any opening for doubt.

I have urged that for the purposes of Formal Logic it may be necessary to reduce propositions to the Subject-Copula-Predicate form, or to some other in which the subject is clearly separated from what is said of it by the form of the proposition itself. After what I have already said it will hardly be necessary to add that of course I do not mean that this ought to be done also in ordinary thought or conversation. Here there will probably be no need of this formal safeguard, and in any case the transformation would be impossible. But even in ordinary thought and conversation we ought, if we wish to be logical, always to make it quite clear both to ourselves and to our hearers, what our logical subject really is.

Note.—To obviate possible misconception I should like to add here (though I believe it is pretty clearly indicated in the paper itself also) that my contention is, *not* that such uncertainty as to the subject as I have referred to often leads to actual errors of reasoning—there this source of error is usually eliminated by the context or by the general course of the argument—but only that it unduly complicates the problem of Formal Logic, if it does not render its satisfactory solution actually impossible.

I may perhaps also be allowed to add a word on Dr. Hillebrand's Theory (given in his work on *Die neuen Theorien der kategorischen Schlüsse*), on which I would gladly have said something in my paper if it had not been too long even without such an additional discussion. Dr. Hillebrand holds with Brentano and others that, though it is of importance from the point of view of Psychology, for Formal Logic the distinction between the subject and the predicate is irrelevant, and he does away with it, stating his propositions (as is done in Symbolic Logic also) in the existential form, "There is A that is B," or "There is no A that is B," as the case may be. If this, or any such system, is capable of a development that will fully satisfy the requirements of thought, I am of course mistaken in my contention. I cannot of course examine Dr. Hillebrand's theory here; but greatly as I admire the ingenuity with

which he works it out and with which he develops, *e.g.*, the syllogism with its various moods, etc., and though I am ready to go a long way with him and have derived great assistance from his work, I must confess I do not think that any system which requires that every universal proposition without exception should be stated as a negative could ever assist thought even in that indirect manner which I claim for ordinary Formal Logic.

I may add, with reference to the end of my paper, that according to Dr. Hillebrand's system every particular proposition positively asserts existence. Therefore, though we can say, *e.g.*, 'All witches are women' (= 'There are no witches that are not women'), we cannot say, in his system, 'Some witches (*e.g.*, those that met Macbeth) are women'; for this would have to be put, 'There are (or exist) witches that are women,' and unless we expressly state that our "universe" is to include the realm of fancy or of superstition, this proposition is untrue.

IV.—THE DIALECTICAL METHOD. (I.)

By Prof. E. B. McGilvary.

In this paper I shall consider, as far as I may, the objections that have been raised against the method of the Hegelian dialectic, with a view to determine what is the real nature of that method. And in doing this I shall avail myself, in great part, of Mr. McTaggart's chapter on the development of the method of the dialectic,[1] as a convenient and accessible statement of the views against which I wish to protest as being unhegelian. It matters not that he presents his views as a sympathiser with Hegel rather than as an opponent. The views call for such a discussion as will bear equally against an adverse school of criticism, which has flourished upon a misunderstanding of the method it criticises. Even where Mr. McTaggart's contentions are fire-new, as in his claim that the negative is not essential to the movement of the dialectic, what he says will make a good basis upon which to treat the subject of the negative in its relation to the dialectic, a favourite subject of the critics.

If there is any work, the results of which depend entirely upon *the integrity of the method* employed, that work is Hegel's *Logic*. Indeed, the method is more important and more secure than the results in their detail, and no one knew this better than its author. In the Introduction to his *Greater Logic*, he calls the method "the soul of the structure,"[2] and says of it: "Although I could not possibly

[1] *Studies in the Hegelian Dialectic*, by John McTaggart Ellis McTaggart, M.A., Fellow of Trinity College, Cambridge. Cambridge: at the University Press, 1896. Chapter IV. Part of the work appeared in a series of articles in Mind (New Series, Nos. 1, 2, 8, and 10).

[2] Hegel's *Wissenschaft der Logik*, i., 42 (45). In my reference to this work I follow the pagination of the reissue of 1841, from the press of Duncker & Humblot, Berlin; giving in parenthesis the paging of the first issue. The three volumes of the *Logic* form the third, fourth and fifth volumes of the *Complete Works*. I use the *Greater Logic* rather than the *Lesser*, partly because it is a fuller treatment of the whole

think that the method which I have pursued—or rather which this system pursues of itself—might not be capable of much perfecting, of much thorough revising in its details, I know, nevertheless, that it is the only true method. This is clear of itself already from the fact that it is nowise distinct from its object and content; for it is the content in itself, it is *the dialectic that the content has within it*, which moves the content forward. It is clear that no treatment can pass for scientific that does not go the gait of this method and conform to its simple rhythm, for it is the gait of the subject-matter itself."[1]

Against this, Mr. McTaggart claims that the method is not uniform, but is constantly changing, and that the change is of two kinds: first, from external reflexion, which alone is at work in the categories of Being, through various intermediate forms, till at the last inner reflexion gets in its hand; secondly, that the negative is not an essential element in the method, but functions only in its earlier stages and gradually disappears altogether from the scene of action.

I. I shall begin with the first point made, namely, that external reflexion is the power that moves the machinery in the categories of Being as over against those of Essence and of Conception. His statement is this: "In Being each category appears, taken by itself, to be permanent and exclusive of all others, and to have no principle of transition in it. It is only outside reflexion which examines and breaks down this pretence of stability, and shows us that the dialectic process is inevitable. In Essence, however, each category by its own import refers to that which follows it, and the transition is seen to be inherent in its nature. But it is still felt to be, as it were, only an external effect of that nature. The categories have still an inner nature, as contrasted with the outer relations which they have with the other categories. So far as they have this inner nature, they are still conceived as independent and self-centred. But with the passage into the notion things alter; that passage 'is the very hardest, because it proposes that independent actuality shall be thought as having all its substantiality in the passing over and identity with the other

subject; partly because it is not so familiar to English readers, and thus will throw new light on the points discussed; and partly because the first volume of the *Greater Logic*, which concerns us most especially in the present paper, *is the latest work from Hegel's pen*, and therefore represents his matured views better than the *Logic* of the *Encyclopædia*.

[1] I., 39 (41, 42).

independent actuality'.[1] Not only is the transition now necessary to the categories, but the transition *is* the categories. The reality in any finite category, in this stage, consists only in its summing up those which went before, and in leading on to those which come after."[2]

Now, before we can satisfactorily enter upon a discussion of this point, it will be necessary to make some preliminary remarks about the *double aspect* in which the categories appear in the *Logic*. The primary purpose of the *Logic* is to show how even the most abstract and seemingly independent and inorganic category contains within itself the life of the whole system of all-inclusive Thought; and how this life, if allowed full play, will develop that barren category through all the stages of thought up to the highest. Now, as this category grows under our observation, we see it taking the form of other categories familiar to us. Thus in the very development of the lowest category we reach other categories whose evolution it is the business of logic to display. Hence it is not necessary to give a separate genealogical table to each category; but the pedigree of one category will be the pedigree of many—but, from one point of view,[3] *not the pedigree of all*. And this is an important point. There are categories that, in the form in which we ordinarily use them, or rather in which we *think* we use them, are not to be found in the direct line of march from pure Being towards the goal of the Absolute Idea. But though not on the line of march, they are near by, and it takes only a little flank movement to sweep them into it. But this flank movement arrests the procession "for the subjective spirit," as Hegel would say. It *appears as if* there were a zigzag movement with constant stops, and not a "never-halting march".[4]

I may illustrate what I mean by borrowing and developing the metaphor Hegel uses for representing the absolute unity of thought. This unity is a circle; thought's movement is in an orbit that returns upon itself. But suppose that one has not yet discovered the orbit, does not even know whether there be any orbit or any movement; suppose one loses one's perspective, and, from any position, views two points in the circumference of the circle. These points

[1] "*Enc.*, Section 159."

[2] *Op. cit.*, pp. 123, 124.

[3] I wish to call especial attention to this reservation. For, from another point of view, it *is* the pedigree of all.

[4] I., 39 (41): "In unaufhaltsamem . . . Gange".

may appear to him *side by side*, rather than *one in advance of the other*. The more advanced point is then viewed as if it were collateral with the nearer; hence when a movement is discovered and is supposed to be in a bee-line from the point of observation through one of these points on to the infinite, it will seem as though a digression must be made from this line in order to catch the other point into the movement. In the same way a higher category is viewed as if it were co-ordinate with a lower one; so viewed, it will not have all the characteristics it should have, else it would not appear co-ordinate. In such a case, it is clear that when the lower category has advanced to the higher, it will not have passed through the form the higher takes *when reduced to a lower plane*. Now, as ordinary thought is abstract and thinks its categories in their abstractness, and not in their concreteness, it will be necessary, when dialectic comes alongside of a category in its abstract form, to show how this abstract category develops itself into the same concrete fulness into which its seeming co-ordinate was developed. To change the figure, the stone which, in the structure of speculative logic, has its significance only as resting on the lower stones and furnishing a basis for the higher, is by the common thinker torn out of its place and used as an independent unit. It is the business of the speculative builder, when he reaches this stone in its structural place, to show that even when lying apart it bears traces upon itself that cannot fail to indicate that such isolation is not proper to it, but that it belongs to an architectural system; and to show that these traces also indicate *where* it belongs in that system.

But even this is not all. Common understanding has its own ways of artificially grouping these abstract categories. One way, and a very favourite way, especially in dealing with the categories that dialectic reaches first, is to pair them off, and to set each member of a pair over against the other, as of equal rank, but mutually incompatible. Thus from the abstract point of view, these paired-off categories are contradictory to each other; and what dialectic does, appears to be a reconciling of these contradictions. When Hegel, therefore, speaks of any category "as such," he means that category regarded as the "unspeculative" thinker regards it; that is, as leading to no dialectical result, and even as independent of the process by which speculative logic has reached it. And when he speaks of its "opposite," he means, in the lower categories, what the abstract thinker regards as its irreconcilable contradictory; and when he speaks of "reconciling" these contradictories, he is merely using language that repre-

sents the view of abstract thought. Dialectic, however, does not recognise the claims of the opposites to be incompatible, and hence need perform no atoning work. To put this in technical Hegelian language, it is merely *external reflexion* that regards the speculative logic as reconciling contradictories. Logic itself, in performing this operation which an onlooker calls a reconciliation, is not conscious of being engaged in a ministry of reconciliation, but is only conscious of advancing from a lower to a higher category.

What I have said above may easily be misunderstood; for it may seem to imply that the higher category is not a unity of *opposites*. It *is* such a unity, but not of *contradictory* opposites, or of *contrary* opposites, *as these terms are used in the traditional logic;* and it is this fact that I have wished to make prominent, and I may be thought to have carried the emphasis on to the point of danger. To put it all in one sentence, logic takes what appear to be contradictories, and does what appears to be a reconciling of them; but succeeds in so doing, merely because they are not *such* contradictories as cannot be thought together in one thought.

The best proof of the correctness of this exposition is the light that it throws upon many a dark passage in Hegel's *Logic*. If we bear in mind the double aspect of the negative categories, we shall be able to solve riddles that otherwise would remain insoluble, except by the Gordian-knot method to which Mr. McTaggart has resorted. I shall quote one passage of the many that find their explanation only in what has just been said. In the *Greater Logic*, under the section, *Determinate Being as Such*, there is a sub-section, *Determinate Being in General*. Here we read: "Determinate Being arises out of Becoming. Determinate Being is the simple unity of Being and Naught. Because of this simplicity, it has the form of an *immediate*. Its mediation, Becoming, lies behind it, has been sublated. Determinate Being, therefore, appears as a primal datum from which we take our start."[1] Here it is evident that Hegel is not concerned with determinate Being *as it has been mediated*—that is, as it appears to the speculative thinker—but as it appears *apart from* its mediation. He seems to be giving an answer, not to the question how this category has arisen in the course of the dialectical process, but to the question how it comes that, if it has thus arisen, it appears *un*mediated. The answer is that the process lies behind the category, and the unspeculative thinker does not look behind for it, but looks only at

[1] I., 106 and 107 (112 and 113).

what lies immediately before him. It is true that there is some excuse for such neglect on the part of the thinker; for, in one sense, this category, as well as every other, is immediate even from the point of view of the speculative thinker; for immediacy is not a characteristic on the same level with mediation and antagonistic to it. Like all true dialectical negatives, it is higher than that which it negates, containing mediateness as one of its moments. In this sense immediacy is self-mediation; and it is in this sense that determinate Being is for the speculative thinker immediate; for its presuppositions, its moments, its media are *in* it and not *behind* it. This is one of the things that Hegel means when he says that in this category mediation is sublated; for to sublate means both to cancel and to retain. Mediation is cancelled, for this category is immediate; and it is retained, for this category is, from a higher point of view, self-mediated. But a full insight into this truth does not yet appear, and it would be anticipating a later result of the dialectic to bring forth this truth at this stage. This revelation will be made first by the category of Being-for-self. Hence the real purpose of introducing determinate Being as *immediate* and of saying that it appears as a new starting-point, is to account for the apparent immediacy of the category *as it is ordinarily regarded.*

We are now ready to return to the discussion upon which we entered on the second page of this paper, and to examine the claim made by Mr. McTaggart, that in the categories of Being the dialectic advance is made possible only by outer reflexion. And the first thing to do is to determine the meaning of the expression "outer reflexion". It is a phrase constantly used by Hegel in his *Logic*, and fully explained in the Second Book;[1] but it will not be necessary to quote and to explain this difficult passage, for I do not intend to give an outline of Hegel's doctrine of reflexion, but merely to touch upon such features of this doctrine, or rather upon such corollaries from it, as bear upon our present purpose. It does not concern us to investigate the true dialectical relation between the different kinds of reflexion, but merely to ascertain what Hegel means when he denies that outer reflexion is the motive power in the earlier categories, and what Mr. McTaggart presumably means when he asserts that it is the only means used to secure the dialectical advance in these categories.

Outer reflexion is a way of regarding two categories as

[1] II., 19 (19), *seq.*

having no genetic relation to each other, but as merely co-existing in the thinker's mind independently of each other. This thinker, as a third party, compares the categories and passes judgment upon them as to resemblance or difference. This judgment does not affect the true inner nature of the categories, but merely records the impression they make on an onlooker. For a corroboration of this description of the function of outer reflexion, I shall quote two passages from the First Book of the *Greater Logic;* for it is this book that deals with the categories now in question. In one passage Hegel says: "This sameness of the determinations" (of Something and Other) "is only a matter of outer reflexion, of comparison of the two".[1] Here we see an identification of outer reflexion and comparison. The second passage is more explicit. "We have still," says he, "to mention particularly the word *unity*, which is, if I may say so, very infelicitous. It designates, even more than *identity* does, a subjective reflexion; for it is for the most part considered as a relation that arises from *comparison*, from external reflexion. In as far as this faculty finds the same characteristic in two *different objects*, a unity is present in such wise that, withal, there is also presupposed the complete *indifference* to this unity on the part of the objects themselves that are compared. The act of comparing, therefore, and the unity do not concern the objects themselves at all, but are an activity and a determination external to them."[2] External or outer reflexion, then, brings together two categories considered as mutually independent, and establishes a relation between them for its own convenience; but this relation is not regarded as in any way arising from their true inner nature, or as in any way affecting that nature. *Inner reflexion* is opposed to this outer reflexion.[3] What this inner reflexion is can be seen by studying the passage in the Introduction to the *Greater Logic*, where Hegel says that "the divisions and headings of the books, sections and chapters . . . do not belong to the contents and body of the science, but are arrangements of outer reflexion. . . . They are meant to have no other significance than that of a table of contents. But, besides, the *necessity* of the connexion" (of the categories thus brought together externally) "and the *immanent origin* of the distinctions are found in the treatment of the subject-matter itself; for they are involved in the progressive self-determination of the conception. That by which the conception accomplishes its self-advance-

[1] I., 117 (123). [2] I., 84 and 85 (90). [3] I., 94 (100).

ment is the aforesaid *negative*, that it has in it. This constitutes the truly dialectical feature. . . . Ordinarily the dialectic is regarded as an external and negative activity, that does not belong to the subject-matter itself. This activity is supposed to have its source in mere vain caprice, acting as a subjective impulse to take what is firm and true and make it totter and fall to pieces."[1] Here the contrast between outer and inner reflexion is clearly stated, although inner reflexion is not mentioned by name. While in outer reflexion the relation between two categories is established, not by the categories themselves, but by an *outsider*, in inner reflexion one category is seen to rise inevitably out of the other by immanent necessity, by reason of the negative that resides in the other. "Outside reflexion" is therefore *subjective*, and is contingent on the attitude of an outsider. Inner reflexion is *objective*, and is necessary from the very inner constitution of the object.

With the *caveat* already entered, that I am here treating of outer and of inner reflexion only in their bearing upon my present purpose, and not in their dialectical relations to each other, I am now ready to examine Mr. McTaggart's assertion that, in the categories of Being, "it is only outside reflexion which . . . shows us that the dialectical process is inevitable". But as he maintains that the process throughout Being is not uniform, so he would perhaps say that the kind of reflexion involved in the advance changes with the advance, and that if we want a typical instance of the enginery used in Being, we must take up the very first triad. So be it. If we can prove that the advance here is not due to outer reflexion, *a fortiori* we may conclude that *nowhere* is it due to outer reflexion.

Hegel himself realises the difficulty of getting a start. This difficulty lies in the fact that we must begin with an immediate category, with one that has not arisen from any other; for if it has so arisen it is no longer the first category, but its source is a category prior to it. But any immediate category must be simple; it may have no moments or constitutive factors; else it would not be immediate, but would be mediated by these moments.[2] But if it has no moments it would seem as if it must be a dead self-identity; and any progress from the category could not therefore be ac-

[1] I., 39-41 (42 and 43).

[2] I have discussed this point quite at length in an article on "The Presupposition Question in Hegel's Logic" in the *Philosophical Review*, September, 1897, pp. 512 *seq.*

complished by any indwelling motive power, but must be due to power from some external source. The advance is forced upon it from outside and is in no sense its own act.

This, then, is the apparent dilemma that Hegel had to face: Either there are moments immanent in the first category or there are none. If there are, then the first category is *not* the first category. If there are none, then the movement must be due to *external* reflexion, and is not a necessary logical movement at all. Hegel, however, evidently believed that this dilemma was more apparent than real; for on the very page of his *Greater Logic* where he calls attention to the fact that the transition in the first triad appears different from the subsequent transitions[1] he states that inner reflexion is at work here as well as outer reflexion; and we shall soon see that inner reflexion is the true organon of the dialectical movement, and that outer reflexion is appealed to for the reason that we are dealing with categories appearing in a form not amenable to dialectic, because not capable of being thought. As they are not thought-determinations at all when appearing in this form, but are mere make-believes, their spurious character must be shown by the faculty of make-believe, that is, by external reflexion. Even the very way in which the two kinds of reflexion are spoken of here, shows which is the active power. Hegel is saying to his unspeculative opponent, who wants to test everything by outer reflexion: "Your own outer reflexion, as well as the inner reflexion proper to logic, sets down the indefiniteness of pure Being as equal to Naught, and declares it to be a mere creation of thought, a nothing".[2] Thus we see that, in the very first triad, he shows, in the most unmistakable way, his belief that inner reflexion is the vehicle of progress.

Let us now see whether we can discover how he justifies to himself such an escape from the apparent dilemma that confronts him. His statement of the difference which appears between the transition from the first to the second category, and all the later transitions, is this: "In the pure reflexion of the beginning, such as is made in this Logic with Being as such, the transition is still hidden. Because Being is only posited as immediate, Naught breaks forth into view in it only immediately. But all the follow-

[1] I., 94 (100).

[2] *Ibid.*, "Diese Unbestimmtheit oder abstracte Negation, welche so das Seyn an ihm selbst hat, ist es, was die äussere wie die innere Reflexion ausspricht, indem sie es dem Nichts gleich setzt".

ing categories, *e.g.*, determinate Being, are more concrete" (*i.e.*, complex, made up of factors). "There has already been *explicitly posited* in them the element that contains and produces the contradictions of those abstractions, and therefore contains and produces their transition. In Being as simple and immediate, the recollection that it is the result of complete abstraction and thus is already abstract negativity or Naught, has been laid aside before entering upon our science. But in the course of the science, expressly from Essence onward, that one-sided *immediacy* will be shown to be mediated; for there Being appears as *Existence*,[1] and the mediating factor of this Being, the Ground, is *explicitly posited*."[2]

Again in another place he says: "We may still make another remark about the character of the transition of Being and Naught into each other, namely, that this transition is to be conceived without the help of any further categories of reflexion. It is immediate and entirely abstract, because of the abstraction of the transitive moments, that is, because there has not been explicitly posited in either of these moments the determinateness of the other, by means of which the transition could be effected. Naught is not yet *posited* in Being, although Being is *essentially* Naught, and *vice versâ*. Hence it is not permissible to apply here principles of mediation which are further determined, and to conceive of Being and Naught as in some essential relation (Verhältniss)—the transition is not as yet an essential relation. It is thus not proper to say: 'Naught is the *ground* of Being, or Being is the *ground* of Naught'; or to say, 'Naught is the *cause* of Being, and so forth'; or again to say: 'There can be transition into Naught only *under the condition* that something *is*, or into Being only *under the condition* of Non-Being'. The kind of relation (Beziehung) cannot be further determined without further determining at the same time the related sides. The nexus of Ground and Consequence, for instance, no longer has for its connected sides mere Being and Naught, but it has" (as one side) "expressly Being that is Ground, and" (as the other side) "something which is indeed only posited, not independent, but something which is not abstract Naught,"[3] because abstract Naught *is* independent.

[1] Here let the reader bear in mind the etymology of this word, *existentia*, a standing forth *out of* something as its ground. It is Being in an *essential relation*.

[2] I., 94 and 95 (100).

[3] I., 99 and 100 (105 and 106).

And once again, at the end of the completed work, where he reviews the whole dialectical procedure in the light of the final result, he says: "The beginning has, accordingly, for this method no other characterisation than that it is the simple and universal. . . . The universal, however, in the absolute method, is not regarded as a mere abstract, but as the objective universal, that is, as that which *of itself* (an sich) *is the concrete totality*, but a totality not yet explicitly *posited*, not yet *for itself*" (*i.e.*, not yet explicitly recognised). "Even the abstract universal as such is in its concept, that is, considered in its truth, not merely the *simple;* but as *abstract* it is already *explicitly posited* as infected with *negation*. There is, therefore, whether in reality or in thought, nothing so simple and so abstract as one usually supposes. Such a simple is a mere *make-believe*, which has its ground only in the unconsciousness of what is in fact present. The initial category has been previously characterised as the immediate; this *immediacy of the universal* is the very same thing that is here expressed as that which is *of itself*, without being *for itself*. . . . The concrete totality which makes the beginning has, as such, in itself (in ihr selbst) the beginning of the advance and of the development. It is, as concrete, *possessed of distinctions within itself* (in sich unterschieden). Because of its *first immediacy*, however, the first distinct elements are at first *different*. However, the immediate, as self-referred universality, as subject, is also the *unity* of these different elements. This reflexion is the first stage of the advance, the emergence of *difference, judgment*,[1] *determination*. The essential thing is that the absolute method finds and recognises the determination of the universal in the universal itself. The finite knowledge of the understanding proceeds, in the act of determination, in the following way: what it laid aside in the creation of the universal by abstraction, it takes up again from the concrete in just as external a manner. On the contrary, the absolute method does not conduct itself as external reflexion, but gets the determinate out of the object itself, seeing that the method is the very immanent principle and soul of the object."[2]

I have made these many long quotations because the

[1] Hegel's use of "Urtheil" is peculiar, and, for the beginner, is puzzling. He takes it in the sense of a *self-originated diremption* of a concept; and it should, perhaps, be so translated here.

[2] III., 323-326 (333-335), quoted, as the asterisks show, with large omissions.

point they are meant to support is so important, and that point is this. Although the first category appears as simple and abstract, it is not so in *reality*, and the negation which seems to stand beside it as a mere indifferent neighbour is, in fact, "bone of its bone and flesh of its flesh," an Eve created out of the rib of Adam. But this immanent origin does not make itself manifest in the beginning; or, to use Hegel's own language just quoted, "in the pure reflexion of the beginning the transition is still hidden". At that stage, then, all that one can say is, that "Naught breaks forth into view in Being only immediately". There seems, as yet, to be no mediation for it on the part either of Being or of some third and external agent. We are not yet in a position to say that the emergence of the category Naught is due either to outer or to inner reflexion.[1] Just as the first category is taken in its immediacy, so the second is, at this point, to be considered as immediate. But just as further on we shall see that our first category is not immediate to the exclusion of mediation, but is mediated and *self*-mediated, so we shall see that the movement from the first category, which surprises us now because we cannot see any mediation for it, is mediated by the very moments which we shall find to mediate Being. As soon as Being shows itself up as not simple but complex, the apparently immediate emergence of the thought of Naught upon the thought of Being shows itself to be brought about by the originally hidden, but actually present, complex factors of Being. The transition is, then, really made by virtue of the negative that lurks unseen in pure Being; but because the negative is at present in hiding, the act of transition is also hidden.

There are thus three different kinds of reflexion that may deal with the relation existing between the categories of the first triad—*pure* reflexion, *external* reflexion and *internal* reflexion. Let us now proceed to see in detail how each kind of reflexion will exhibit the relation and how Hegel expresses the result obtained by each.

1. *Pure* reflexion puts the relation thus: "Because Being is only posited as immediate, Naught breaks forth into view in it only immediately. The transition is as yet hidden." This is Hegel's own way of representing the point of view of

[1] It is this inability to say anything as yet about the mediation of Naught, that makes Hegel call the reflexion at this stage "*pure* reflexion" (*In der reinen Reflexion des Anfangs*, i., 94 (100)). "Pure" here means two things. It means "not *externally* mediated," and also "*apparently not mediated at all*". It has the same meanings when used with Being and Naught, as will appear presently.

pure reflexion.[1] To express the same idea more fully, we should say that the thought (category) of Being can never be thought alone; but in thinking it we discover that we are always at the same time thinking the thought (category) of Naught. Neither Being alone, nor Naught alone, ever exhausts the content of the thought that thinks either; but both must be thought together in one synthetic thought. The conception of Naught is thus to be perceived in the conception of Being.[2] In the concept of Being, in the thought that clutches it, there is also present, clutched in the very same grip, another element, namely Naught. This is what Hegel means in the passage quoted above,[3] when he says: "Even the abstract universal as such is, in its concept, that is, considered in its truth, not merely the simple; but, as *abstract*, it is already *posited* as infected with *negation*".

2. *External* reflexion has a different way of setting forth the relation between Being and Naught, and, as we should expect, it is a very shallow and superficial way. Pure reflexion is the immediate act of the infant logic; external reflexion is the self-confident, but trivial, worthless act of the youthful logic, which knows only the outside appearance of things, but thinks it "knows it all". Being an act of comparison, external reflexion must have some objects given to it, and is merely concerned with the resemblance or the difference of these objects as they appear to the subject who reflects only upon the surface of them. In the present instance, before external reflexion can act, it must have both Being and Naught come before it, and then it must compare them. These conditions are met in Hegel's treatment of these categories in the text of his *Greater Logic*, where he says: "*Being, pure Being*—without any further determination. In its undetermined immediacy, it is only like itself nor is it unlike anything else; it has no difference within itself, nor any as against what is without. If any determination or contents were distinguished within it, or were made the means of setting it down as distinct from something else, it would not be maintained in its purity. It is pure indeterminateness and vacuity. There is *nothing* to be perceived in it, if we can here speak of perceiving; or rather it is only this pure, empty perceiving itself. Just as little is anything to be thought in it: or rather it is likewise only this empty

[1] I., 94 (100).

[2] I., 73 (78): "Es ist nichts in ihm anzuschauen". But see below.

[3] P. 65 above.

thought. Being, the undetermined immediate, is in fact *Naught*, and nothing more or less than Naught."[1]

Here we see that after Hegel has defined Being, he tells us that in this category we see *nothing*. This may be taken to mean one of two things. One meaning may be that which we have already indicated in discussing the point of view of pure reflexion:[2] "In the thought that thinks the category of pure Being, we perceive besides the category of Naught". If this were the correct paraphrase we should expect "Nichts" and not "nichts," for elsewhere Hegel always capitalises his categories; here both in the edition of 1812 and in the two issues of the second edition, the word is not capitalised. We may conclude that this is not the meaning of the passage, and we are then forced to the alternative that Hegel's thought is this: "In such an undetermined perception or thought as we have in pure Being, there is *not anything* to be seen or thought. Indeed we have a mere *objectless* perception or thought; and just such a *lack* of object for perception or thought is what we mean by *Naught*. Hence the category of undetermined Being is, in fact, exactly the category of undetermined Naught, no more, no less."

If this is the line of thought, as it seems to be, it is clear that Hegel could never have said that the category of pure Being, so defined, was the category of pure Naught, unless the latter category with its meaning were already *independently* in his mind, waiting to be compared with the former. For Hegel has just said that *of itself pure Being has no resemblances*. The recognition, therefore, of any likeness to something else, or of any identity with something else, cannot have been forced upon him by the category itself that is now the object of thought; but it must be the result of an external reflexion on his part, seeing that external reflexion differs from the internal reflexion of the absolute method just in this, that it does not obtain its result by a process that the *object* of thought performs. But if the identification of Being and Naught has been accomplished by external reflexion, then the category of Naught does not arise dialectically out of the category of Being, but is merely pronounced identical with that category by an external arbiter who decides nothing on its intrinsic merits.

That the course of thought in this passage is that of external reflexion is further shown in the next paragraph, where Hegel proceeds to justify the identification of Being and Naught by rehearsing fully the definition of Naught, and by

[1] I., 72 and 73 (77 and 78). [2] P. 67 above.

showing that it is exactly the same as that of pure Being. "*Naught, pure Naught;* it is simple likeness to self, complete vacuity, absence of determinateness and contents, lack of distinctions within itself. In so far as perception or thought may be here mentioned, it is generally considered a distinction whether something or *nothing* be perceived or thought. To perceive or to think nothing, therefore, has a meaning; the two" (*i.e.*, something and nothing) "are distinct; hence Naught *is* (exists) in our perception or thought; or rather it is empty perception and thought itself, and is the same empty perception or thought as pure Being. Naught is therefore the same determination, or rather lack of determination, and hence altogether the same thing, that pure Being is."[1] Here it is evident that Hegel is merely comparing, point by point, the two categories, and as a result pronounces a judgment of identity between them. In short, *he is simply engaging in external reflexion.* But besides identifying the two categories, he also remarks upon a *distinction* which is commonly held to exist between the no categories. It must, however, be noticed that he here offers proof of the validity of this distinction. He merely appeals to current opinion; such an appeal surely is not a dialectical process.

It seems to me that one cannot escape the conviction that in the two paragraphs we have here examined, the procedure is one of external reflexion, and not a dialectical procedure by internal reflexion. To repeat what has been said, comparison of two categories, which of themselves do not prompt to any such comparison, leads the author to say that they are identical; current opinion as to their distinctness leads him to animadvert upon this distinction. It should be observed, however, that from such an identity as has been established, he has no right to say that Being and Naught are unseparated and inseparable, and that each vanishes in the other, and that the truth is neither the one nor the other, but the effected transition of the one into the other, all of which he does say in the following paragraph—he has no right to say this, unless he merely means that the psychological association in the thinker's mind between Naught and the definition of Being, and between Being and the definition of Naught, is so strong that, when he thinks of the definition of Being, the thought of Naught arises inevitably by spontaneous associative processes, and *vice versâ.*

The conclusion of this examination, therefore, is that in

[1] I., 73 (78).

Hegel's *Greater Logic* the whole of the text that treats of the categories, Being and Naught, so far as the identification and the distinction of the two categories go, is concerned with exhibiting the work of external reflexion. Now the question arises, whether these paragraphs contain the only representation given by Hegel of the relation between these categories. If so, his case is hopeless. He is unmistakably convicted of using in the dialectic an instrument that he has in the most explicit terms declared to be unavailable for the purpose; and the unity that is brought about between Being and Naught is as blank a self-identity as was either pure Being or pure Naught. *There is no movement.* His thought is as changeless as the Brahman's, who "year in and year out gazes at the tip of his own nose and mutters 'Om, Om, Om' to himself or else keeps silent".[1] But did Hegel mean to palm off this paralysis of thought, this movelessness of external reflexion, as a genuine dialectical movement of vital inner reflexion? Are we forced to the alternative of saying, either that he himself was deceived in the matter, or else that he tried to deceive others? Surely not, when in the very first paragraph of his first remark[2] on this passage he tells us that in pure Naught he is conceiving *only the abstract negation*, and of course we may conclude from the distinction he is constantly making between abstract negation and dialectical negation that he is *not* dealing with the latter. Indeed, he tells us expressly that his purpose is not "to deal with the form of the opposition" (between Being and Naught) "that is, at the same time, with the form of the *relation* between them, but with abstract, immediate negation, with Naught purely independent, with unrelated denial—which, if one would, one could express by bare *not*". If it had been his purpose to exhibit the second category in its *dialectical* form and in its dialectical relation, it would have been proper to substitute Non-Being for Naught, and in such a category all the dialectical characteristics of the negative would have manifested themselves. "For in *Non-Being* the relation to *Being* is contained; it is both Being and the negation of Being expressed in *one* word; Naught, as it is in Becoming." He thus disavows, in as clear and unmistakable terms as language can provide, any attempt to exhibit a dialectical movement in what he has said about the identity and about the distinctness of Being and Naught, when treating those categories in their purity.

[1] I., 92 (97). [2] I., 74 (79).

V.—KANT'S DOCTRINE OF TIME AND SPACE.

By James H. Hyslop.

The recent publication of *Lose Blätter aus Kant's Nachlass* with evidences in them of the development of Kant's philosophy and of fluctuating convictions on certain fundamental problems in it, has suggested some remarks on passages in the *Critique* itself which point in the same direction, or at least may either increase or remove the confusions prevailing in some quarters about its doctrine. It is proverbial that the *Critique* is patchy and mosaic, but the reverence for Kant's name and influence often blinds us to matters of much interest in the system, while that side of his doctrine which is unequivocally stated, or supposed to be unequivocally stated, overshadows statements and conceptions which, if true, would introduce a modification of his philosophy as usually understood, that might satisfy an ineradicable instinct of the human mind without in the least impairing the legitimate claims of idealism. What I refer to can best be explained by stating my experience when attempting to make Kant's theory of space clear to students. It is perhaps a universal experience.

But before stating this experience it is imperative that I define the limits of the discussion to be here undertaken. I do not intend to recanvass the whole question of Kant's doctrine of space and time, nor exactly to thresh old straw, though I may come perilously near doing so. I wish to confine some criticism to a number of statements by Kant which are unquestionably somewhat anomalous, at least in mode of expression. It would require too much space to examine his theory of space on its merits, or in terms of a phraseology less open to doubtful interpretation logically and grammatically than those cases to which I wish to call attention, and which by their very exceptional character tend either to show greater confusion in a doctrine commonly supposed to be clear, or to force upon us an interpretation that might bring transcendental idealism nearer to the

doctrine of Reid and Hamilton than is usually suspected. Hence I shall give no time to a critical study of passages when the phraseology does not excite suspicion. I shall simply assume that they are easily reconcilable with Kant's evidently intended meaning when at least emphasising the ideality of time and space, and proceed to consider such as are at least verbally calculated to arouse interest. There are innumerable problems and difficulties in the Kantian terminology which cannot be fully discussed here, which yet have a bearing upon the question raised in the passages referred to below. But these can only serve as pockets into which we may throw possible conceptions suggested by the special anomalies which we have in mind, and we thus evade all necessity or obligation to discuss Kant's doctrine of space and time on its merits or in terms of the relation between his empirical and *a priori* psychology. With this understanding of our purpose, to limit the discussion to real or apparent anomalies in Kant's language, we can begin with the experience that best expresses the difficulties of common sense with the Kantian theory.

Nothing seems more paradoxical or absurd to common sense than the statement that space is ideal or only an *a priori* construction of the mind. Students immediately exclaim when this is asserted, 'Do you mean to say that there is no space outside of consciousness?' or something of the same import. But when we have pointed to the subjective character of colour, sound and other sensations, and shown the inevitable tendency of thought from the time of Descartes to the same conclusion in regard to space, enforced both by Kant's arguments and by actual experiments confirming them, the doctrine seems logically so cogent that the student does not know how to evade it, and yet revolts against the real or apparent extravagance of it, and asks, 'But is there not *something* external to consciousness?' at least correlated with it, but not represented by it, so tenacious is the conviction of the existence of objective space. There is usually no trouble in admitting the ideality or subjectivity of colour. But there seems no difficulty because physics teaches us to conceive that correlate as some mode of vibration, assumed to be colourless. As to space no such correlate appears to consciousness, and yet the conviction of objectivity is so strong that it is hard to have the opposite view taken seriously when a correlate to space consciousness is denied or questioned. But is not the difficulty after all only one of a defect of language to express the true condition of the case? Physicists still use the term

"colour" either to denote the vibrations which affect the sensorium or to describe the quality of objects that affect us in this particular way. But they are quite conscious of the antithesis or opposition existing between "colour" physically defined, and "colour" psychologically defined. In fact they may be said to have been the first to give the idealist empirical proof of the non-correspondence between sensation and its cause; that is, the non-representative character of colour in reference to the vibrations assumed to determine it. But rather inconsistently with this conception language has gone on applying the same term "colour" to facts which have nothing in common with each other (by supposition) and no relation except one of time. Thus "colour" is a name for the material conditions of sensations which are not constituted by those conditions. More paradoxically stated the term is a name for colour and for phenomena which are *not* colour, but only its ground or cause. This inconsistency can be overcome by giving up the name for one of these phenomena. But then, if "colour" is to denote only the subjective mode of sensory reaction, non-representative of reality, the question may be raised, what evidence have we of any such correlate as the physicist assumes or asserts? The sensation is no attestation of its character, and when we abstract that we have nothing left but something like Kant's *Ding an sich*, the right to the assertion of which is so stubbornly disputed. But it is interesting to note that there is no such widely extended a tendency to question or deny the existence of some objective correlate to colour as a sensory reaction. All either tacitly or openly assume the physicist's postulate, provided he does not himself assert the identity between the conditions and the colour sensation. This is to assume a correspondent (non-representative) of colour, which the mind seems forced to postulate in order to make the occurrence of a colour sensation intelligible. The idealist may claim that this is wrong and unwarranted, but it is certainly quite as warranted as to assume the existence of anything at all other than the sensation or than the subject in which the sensation occurs. Solipsism may be very logical, but nobody has ever sincerely believed it. Something other than our own mental states is everywhere granted even when denying that its nature can be described in terms of mental states.

Now this same question can be asked in regard to time and space. Grant that we are obliged to regard them as forms of perception; may there not be an objective correlate of them which can no more be properly described by the

terms space and time, as denoting intuitions, than colour can describe vibrations of ether? Is not this the demand of common sense when it asks: "Is there not *something* outside of us?" This is its desperate inquiry when it feels forced to accept the ideality of time and space as it does that of colour. I am not here asking a question for which I intend an affirmative answer, but only pointing out the natural demand of the mind and its consistency in the two conceptions. In the first the admission of an antithesis between colour as perceived and the nature of the external conditions of it does not lead to a denial of the latter, and we may well ask why the ideality of time and space would require the denial of a correlate equally antithetical to them. Is it irrational to suppose the existence of something (name it as you please) which is no more described by the terms time and space than vibrations are by colour? Should we press the antithesis between consciousness and reality any farther in this case than in that of colour?

If we answer the question in the negative the next query is, whether Kant's doctrine is consistent with such a view. Is it possible to maintain with Kant the ideality of time and space, and yet assert or believe the existence of some objective condition of reality which is a correlate of them, yet not represented by them? If we take Kant's most frequent statements there would be no doubt about the answer to this question. Indeed it may savour of ignorance to propose or suggest the possibility. For the consensus of opinion is so general, and the supposition so paradoxical, I suspect, to most students that it would be scouted at once. I certainly do not know a single statement interpreting Kant in this way. But this may be from defective reading, though the strongest and most frequent statements of Kant seem to treat them as *blosse Anschauungen*, as *nicht Predicate der Dinge an sich*, etc. But the question here raised is after all above this. If Kant intended to be consistent in the employment of *Raum* and *Zeit*, and not to apply them to external conditions not represented in the *reine Anschauungen*, he might well use the language he does about their subjective nature, and yet not deny an objective correlate of them. The main problem, then, is to know, first, whether Kant was wise enough to use his terms consistently, as the physicist does not in the case of colour, and second, whether it is consistent with his usage to postulate a correlate of them, in order to satisfy one of the strongest convictions of the mind; namely, that space and time would appear as much more arbitrary and alterable data in the empirical states of consciousness, if

it were not for the regulative influence of external conditions other than mere sound, colour, etc. While I think that such a view might be consistent enough with the ideality of time and space, as defining the way we see things, it is not enough to depend upon this abstract consistency as an evidence of such a doctrine in the face of the statements by Kant apparently ignoring or denying anything whatsoever but the *reine Anschauungen*.

All this is preliminary to the consideration of some statements in the *Critique* which, on their surface at least, look like the doctrine here conceived. Whether they were deliberate statements with another meaning than their plausible one, or mere slips of the pen inherited from the precritical stages of his thought, will be the questions to be faced and discussed. The presumption will always be against the latter view and in favour of Kant's consistency here, in spite of the contradictions charged in other problems. But as the assumption of his consistency of conception does not militate against the doctrine here suggested, as long as the antithesis between consciousness and reality is asserted, it will be interesting to examine the passages to which I refer, and to find whether they indicate an inconsistency of language, or whether they are connected with some peculiarities of a complex doctrine. It will be best to mention several of the cases before commenting upon them. But previous to the discussion I must remark that I do not mean to beg any questions either as to the importance of the passages or as to their anomalous character. It is the peculiarity of the expression which invites attention and which seems to speak of time and space as if they might denote or imply something more than forms of perception. This appearance comes from connecting *an sich*, once *für sich*, with them where one is reminded of the import of this phrase in connexion with the more celebrated phrase *Ding an sich*. Let us enumerate the passages. The references are for Hartenstein's edition (vol. iii.). They are: 1, p. 71, line 8 from the bottom, "Der Raum, an sich selbst betrachtet, ist aber nichts Bewegliches". 2, p. 159, line 2 from the top, "Erscheinungen, als Gegenstände der Wahrnehmung, sind nicht reine (blos formale) Anschauungen, wie Raum und Zeit (denn die konnen an sich gar nicht wahrgenommen werden)". 3, p. 169, line 14 from the top, "Nun kann die Zeit für sich nicht wahrgenommen werden". 4, p. 170, line 23 from the top, "Nun kann die Zeit an sich selbst nicht wahrgenommen werden". 5, p. 174, line 16 from the bottom; the same phrase as the last. 6, p. 241, line

16 from the bottom; speaking of *Dinge an sich*, he says, "Wollen wir dieses Object Noumenon nennen, darum, weil die Vorstellung von ihm nicht sinnlich ist, so steht dieses uns frei. Da wir aber keine von unseren Verstandesbegriffen darauf anwenden können, so bleibt diese Vorstellung für uns leer und dient zu nichts, als die Grenzen unserer sinnlichen Erkenntniss zu bezeichnen, und einen Raum übrig zu lassen, den wir weder durch mögliche Erfahrung, noch durch den reinen Verstand ausfüllen können." 7, p. 296, line 6 from the top, "Die Zeit ist an sich selbst eine Reihe," etc. And line 14 from the top, "Was aber den Raum betrifft, so ist in ihm an sich selbst kein Unterschied des Progressus vom Regressus," etc. There are three others of an important character which will be mentioned in their place.

In regard to the first of these passages the first point to be remarked is the conception that motion or movable things are *empirical* data, and space is spoken of as something *in itself*, at least according to the superficial interpretation of the language. The doctrine maintained about motion in the passage is undoubtedly that it is not a property of *Dinge an sich*, but only of *Ersheinungen*. Now the question is, what relation does it sustain to *Raum?* Kant undoubtedly holds that this empirical datum takes place *im Raume*, and hence it would appear that the "*an sich selbst betrachtet*," with the evident exclusion of motion from the nature of things, would be taken to refer to a *Raum an sich* as opposed to *Raum als Anschauung*. If this is not Kant's thought, what is the use of the "*an sich selbst betrachtet*" at all? If *Raum* is an *a priori Vorstellung* or *reine Anschauung*, and *Bewegung* an "*empirisches Datum*," why not say "*der Raum ist nichts Bewegliches*" and omit the "*an sich selbst betrachtet*" altogether? Perhaps the answer would be that the latter phrase means to say or imply that there is a distinction between the consciousness in which motion is an element and that in which space alone is perceived or intuited; that is to say, that there is an *empirical* as well as an *a priori Raum*. If this be the conception *Raum* as a *reine Anschauung* and *Raum an sich selbst betrachtet* would be the same. But then if Kant admits the existence of an *empirischer Raum* in which motion is found, would he not be obliged to admit that space may be an *abstracter Begriff?*—the very conception which he emphatically denies. The same difficulty will appear if we suppose that the phrase *an sich selbst betrachtet* means to describe space as an abstract conception. So far as I can see, the phrase can either have no meaning at all and is merely pleonastic, or it must denote

one of two things, if a meaning is to be given it. Either it denotes a *Raum an sich* in contrast with *Raum* as a subjective form, or it denotes *Raum* as a *reine Anschauung* in contrast with *empirischer Raum*. If the latter be the meaning we can ask two questions. How can Kant connect empirical and pure space as *Vorstellungen?* and how can he reconcile the distinction with the denial that the idea of space is an abstract conception? If he connects the two data we have the difficulty involved in the second question which can be solved only by Lotze's doctrine that space can be both an *abstracter Begriff* and an *a priori Anschauung*, a position which will seem to many to violate the law of parsimony. Again the connexions of the two would seem to imply a direct contradiction with the other Kantian doctrine that the empirical is relative, not necessarily universal, and the *a priori* is universal. That is, space could be both an individual and a universal datum. This contradiction could be solved only by saying that empirical space is individual and relative and *a priori* space universal. But this would be denying the qualitative connexion of the two data, setting up an antithesis between two subjective facts denoted by the same name. If we are to have that liberty, there would be no objection to talking about objective as well as subjective space; that is, space as a condition and correlate of the subjective form and yet in qualitative antithesis to it. But the uniform manner in which Kant considers *Raum* as an *a priori Vorstellung* would seem to leave as the only intelligible view of the phrase *an sich selbst betrachtet* that it means to qualify *Raum* in the same sense that *an sich selbst* qualifies *Dinge*. If this be true we have an objective something corresponding, a non-representative correlate, to the subjective form called space, and in spite of the antithesis denoted by the same term, as physics employ colour to describe antithetical facts. Is this a possible and rational interpretation of Kant or not? I shall not pretend to assurance on the matter, nor even a probability. I can only ask the question, and further inquire whether the other passages bear out such a supposition.

In the second, third, fourth and fifth passages the phrases are substantially the same. They are practically "Raum und Zeit an sich können nicht wahrgenommen werden". The problem is to see whether this mode of statement is consistent with what is generally taken to be the true Kantian doctrine. Superficially viewed at least, the statement would seem to mean that there are a time and space which cannot be known or perceived. If so, Kant supposes

both a subjective form of sense and an objective form or condition, a correlate of some kind, as indicated. But we might conclude too hastily from this language. Much might depend upon the technical meaning of *wahrnehmen*. Now in the context of the third passage Kant definitely defines *wahrnehmen* as *empirisches Bewusstsein*, and this not only can be, but probably is, the import of the term in the other passages. Assuming this, therefore, it could be said that Kant is simply denying that time and space are empirical perceptions, which would be entirely consistent with his general doctrine. If *wahrnehmen* were synonymous with *anschauen* in these cases it might be plausible, and perhaps it might be necessary for intelligible meaning in the case, to suppose that *Raum und Zeit an sich* denoted objective space and time though contrasted with the subjective by an antithesis. For Kant has so often said that *Raum und Zeit* are *reine Anschauungen* that, if *anschauen* and *wahrnehmen* were identical, there could be no consistency between the statements *Raum und Zeit sind reine Anschauungen*, that is *können angeschaut werden*, and *Raum und Zeit an sich können nicht wahrgenommen* (*angeschaut*) *werden*, except by supposing that the distinction between *Raum und Zeit* and *Raum und Zeit an sich* is the same as that between *Erscheinungen* and *Dinge an sich*. I admit, however, as well as believe, that *wahrnehmen* must here be taken as *empirisches Bewusstsein*, and hence the most natural interpretation consistent with the general doctrine would be as already stated; namely, that Kant is simply denying that time and space are empirical perceptions. But if this be the meaning why does he always append the *an sich* to the terms? In this interpretation the phrase is merely a fifth wheel to the coach. Kant would have said the same thing in the formula *Raum und Zeit können nicht wahrgenommen werden*, because he has so often asserted that they are *reine Anschauungen, nur a priori vorgestellt*, or *a priori angeschaut werden*, etc., using the last phrases as indicating his meaning. The *an sich* must either be pleonastic, as remarked before, or it means to qualify *Raum und Zeit* in some intelligible way. The former alternative introduces considerably more confusion into Kant's system than is already supposed to be there. The latter alternative requires us to suppose that he was either assuming a transcendental space, or using *an sich* to describe a distinction between *empirische* and *reine Anschauungen* in which we should not only find the difficulties already discussed, but also the added difficulty of supposing that *an sich* qualifying *Gegenstände* necessarily implied the distinction usually as-

sumed between *Gegenstände als Erscheinungen* and *Gegenstände an sich;* namely, the distinction between phenomena and noumena, *Erscheinungen* and *Dinge an sich.* That is to say, we might seriously raise the question whether *Gegenstände an sich* necessarily denoted the same as *Dinge an sich.* The simplest interpretation, therefore, of the case, and the one that introduces the least confusion into the doctrine, is that *an sich* in these passages really recognises an objective time and space. We may regard it as consistent or inconsistent with the general theory, just as we please. If we suppose it inconsistent with it, we can explain it as a form of speech inherited from the precritical stage of Kant's thought and expressed here without remarking the contradiction with the later view. On the other hand, if we regard the conception as consistent with his ideality of space and time, we may dispute the consistency of the language, on the ground that objects conceived by an antithesis should not be denominated by the same terms.

That we are not forced to interpret the *an sich* here as describing *reine* or *a priori* as contrasted with *empirische Anschauung*, but at liberty to give it the meaning which it has in connexion with *Dinge* or *Gegenstände*, I think is quite evident from other passages where Kant is distinctly asserting that time and space are *only* forms of perception, and not things in themselves, that is not realities *an sich.* Two of these passages are especially clear on this point and must be quoted, though several statements in the metaphysical and transcendental expositions of time and space could be mentioned as proving the same point. The first of the two passages referred to is (p. 69, note): "Die Zeit ist darum nicht etwas an sich selbst, auch keine den Dingen objectiv anhängende Bestimmung". The second is (p. 72, lines 11 and 12 from the top): "dass, wenn wir unser Subject oder auch nur die subjective Beschaffenheit der Sinne überhaupt aufheben, alle die Beschaffenheit, alle Verhältnisse der Objecte im Raum und Zeit, ja selbst Raum und Zeit verschwinden würden, und als Erscheinungen nicht an sich selbst, sondern nur in uns existiren können". Or we might again (p. 70, lines 22-25 from the top) note the emphatic denial that time and space characterise (vorstellen) *Dinge an sich.* A few lines farther down the phrase *diese Formen an sich selbst* carries with it the meaning of *an sich* which we wish to suggest as possible here, not to say anything of the many other instances and the universally accepted doctrine of Kant.

But let us go back to the first instance quoted. Here

Zeit is directly asserted not to be *etwas an sich selbst*. This *an sich selbst* must mean either what it expresses in the phrase *Dinge an sich*, or means to deny that it is a *reine Anschauung*. The latter supposition is perfectly absurd, unless we wish to ascribe to Kant a contradiction too glaring to suppose. I do not see how we can say or suppose that the phrase in this case can mean anything else than to deny without qualification that time can denote any objective existence whatsoever. The use of *objectiv* in the case reinforces the meaning of *an sich* with the negative particle. Now if *an sich* in this negative proposition has the same meaning as when in the phrase *Dinge an sich*, I do not see why it cannot or must not have the same meaning in the positive conceptions *Raum an sich* and *Zeit an sich*. If it does have this meaning here, the case is one in which an objective space and time are admitted in spite of the antithesis between this correlate and the subjective forms. The second, third and fourth passages just referred to reinforce and repeat this interpretation of the phrase, and we have only to say, further, if the terms have not the same meaning in the various quotations mentioned there would seem at least to be confusion worse confounded introduced into the Kantian system.

All this again seems to be confirmed in the language of the sixth quotation, where a certain assumption is said to leave over a space which is not given either through the senses or the understanding. But there may be two doubts in this case. First, the term *ausfüllen* may not be the synonym of *geben* or *vorstellen*. Second, the term *Raum*, interpreted by the translators as *empty space*, may be only a metaphor. But if it is not a metaphor, and if *ausfüllen* here means the same as *vorstellen*, then the instance seems to conceive a *Raum an sich*, and the problem is as we have discussed it.

One thing to be remarked in this connexion is that the unequivocal interpretation of *an sich* in these passages introduces fewer difficulties and inconsistencies in Kant's doctrine than the opposite. The main objection to such a possible view of Kant as my criticism presents, comes from the supposed inconsistency which it implies against his doctrine of space. But this is only formal, because if the antithesis be still maintained between the form of perception and that which may be called *Raum an sich* we can very well say that Kant's language only is at fault and that he may still remain *logically* (materially) consistent, while if we try to maintain his formal consistency by giving any other than his usual meaning to *an sich*, we raise the question of its meaning in

the phrase *Ding an sich* where it may as well be equivocal as anywhere else, and if so, there is no fundamental logical objection to noumena as affirmed by his system. What I should contend for, then, would be that the equivocal import of *an sich* in the case of space not only creates suspicion as to its fixed definite meaning in the phrase *Ding an sich*, but also creates more difficulties in his philosophy than to suppose that Kant could admit an objective correlate of his mental form, though slipping when he calls it *Raum*.

The seventh quotation shows a use of *an sich* more in keeping with the supposition that it denotes the pure or abstract, and not an objective correlate. Here it is said that *die Zeit ist an sich selbst eine Reihe* and *was aber den Raum betrifft, so ist in ihm an sich selbst kein Unterschied des Progressus vom Regressus.* These statements could both be made after omitting the *an sich.* Unless Kant means to distinguish between the empirical or material and the *a priori* or formal element of experience, and therefore to apply *an sich* to express the formal, there seems no good reason for using *an sich* at all. Certainly the whole statement would not seem to apply to things in themselves, whether they are realities other than space and time, or objective conditions expressed by space and time. Still I can see no reason for using *an sich* in these cases unless the phrase meant to describe something other than the phenomena, because Kant has so constantly treated space and time as *reine Anschauungen* without the need of qualifying them as *an sich* that we must suppose he is either speaking of objective space and time or conceding, for the sake of argument, the language of common sense assuming their objective existence. The latter being possible it may not be proper to press the case too hard. The same also is true if *an sich* is only another name for the formal aspect of experience in contrast with the material. But it is a usage quite as exceptional as the one which would claim it for objective time and space, and only the supposed incompatibility of the remaining conceptions in the propositions with noumena can throw doubt on the import of *an sich* to qualify objective time and space in these cases.

There is another remarkable passage which should be noticed for its apparently definite recognition of an objective reality to which the term space is applied. It is the footnote appended to the proof of the First Antinomy (p. 307). The language is: "Der Raum ist blos die Form der äusseren Anschauung (formale Anschauung) aber kein wirklicher Gegenstand, der äusserlich angeschaut werden kann. Der Raum, vor allen Dingen, die ihn bestimmen (erfüllen oder

begrenzen) oder die vielmehr eine seiner Form gemässe, empirische Anschauung geben, ist unter dem Namen des Absoluten Raumes nichts anderes, als die blose Möglichkeit äusserer Erscheinungen, so fern sie entweder an sich existiren oder zu gegebenen Erscheinungen noch hinzukommen können."

The first thing to be observed here is the decided anticipation of John Stuart Mill's famous phrase about "the permanent possibility of sensation" and the philosophic strength and weakness of that conception. But when we remark the emphatic assertion in the first sentence that space is only a formal intuition and not a real object (Ding an sich) to be externally perceived, we have as clear an annunciation of Kant's general doctrine as can be imagined. The next sentence, however, declares as positively for an *absolute space* which determines the possibility of external phenomena, and we have to ask what it means. Is this a flat contradiction of Kant with the first statement? It would certainly be so if, on the one hand, we assumed that he was not merely stating the conception of others, and on the other, that no antithesis existed between subjective and objective space. But these facts may indicate a liability to misinterpret the whole passage. However, the case is one in which, if we suppose an exceptional use of the word *Raum*, Kant can hardly plead in defence a slip of the pen, due to precritical influences, because the second statement immediately follows the first and is meant in some way to contrast with it. The real question to be asked is, does Kant intend to make *der absolute raum* synonymous with *Raum an sich?* If so we have further possibilities in the case. First, it might be one of those vehicular suppositions which he takes from the physical sciences at times for the sake of illustration and argument without intending to commit himself to the common conception of their nature. I can hardly see how this meaning can be put upon the phrase here, especially when we remark the relation asserted of it to external phenomena. Second, if Kant does mean *Raum an sich*, we have to ask again whether he means *reine Anschauung* by it, or an *Etwas an sich* which cannot be perceived. One would perhaps naturally think the latter, but I confess to a want of assurance in this interpretation. At the same time there seems less reason to accept the former view, because the relation of this absolute space to external phenomena "either as they exist in themselves or as they are added to given (empirical?) intuitions" seems to preclude the conception of this space as a *reine Anschauung*, though what follows

immediately as well as an italicised statement before seems to recognise an empirical intuition of space and thus contrasts it with the *a priori* intuition of it as generally asserted. But the strongest evidence that the phrase is the same as *Raum an sich* is the reference to "Things which present an *empirical intuition* conformable to space prior to them," in which we must assume either a representative correspondence between this empirical intuition and the absolute space, which is wholly contrary to Kant's doctrine here and everywhere else, or that "conformable" (gemässe) only expresses correlation, in which case we have a *Raum an sich*, which, though it is only a *Möglichkeit der Erscheinungen*, suggests the strong natural impulse of Kant to apply the term to data that had to be separated by all the difference of an antithesis.

I shall not press this view in the last case any farther. It is not so clear as in some of the first quotations, even if it be admissible at all. But it is suggested by the language, and all the instances when taken together are illustrations of a possible view that I have not seen discussed as deducible from the text of the *Critique*. The gradual growth of Kant's doctrine, as reflected in his earlier works, toward the purely idealistic view of space and the uncertainty of Kant's mind on some of the most fundamental of his positions as reflected in the *Nachlass* suggested to me the propriety of examining whether the fluctuations of his thought would betray any traces of themselves in the *Critique*. They seem to do so, and the only question is, whether the possible view of *Raum und Zeit an sich* here taken is merely a precritical relic unconsciously retained in the system and to be explained as such and weeded out of it, or whether it represents a legitimate distinction denominated by the wrong terms. For myself I do not see any inherent contradiction in supposing an objective correlate to our subjective perception of space, any more than in supposing an objective condition related to subjective colour sensations. But the main question is whether Kant holds such a doctrine, and if he does, as the phrase *Raum und Zeit an sich* seems to indicate, the further question is whether this is a contradiction or merely a misuse of the terms *Raum and Zeit* to denote both terms of an antithesis legitimate enough in themselves. Kant is generally more consistent than the physicist who proves to us the subjectivity of colour, and yet goes on to describe the vibrations, which are its objective correlate and non-coloured, by the term colour. But in these few instances he certainly raises the suspicion that he does not mean to wholly exclude

a correlate of subjective space. His formal consistency can be saved by pleading the influence of precritical thought from which he had not wholly emancipated himself. But as his material consistency might stand with the assumption of an objective condition and non-representative correspondent of space perception, we can only remark in his language an attempt, on the one hand, to idealise space and time as colour, sound, etc., had already been idealised, in order to break up Cartesian dualism, and, on the other, to conform to the strong instinct which seems to force us away from solipsism, absolute idealism, or any theory which denies an objective influence in the production or existence of sensations and perceptions. Would not the possible view here advanced help to explain Kant's attempt to refute idealism? This may be a strained interpretation, but I should be interested to know whether it has anything in its favour but my own impressions.

VI.—DISCUSSIONS.

MR. STOUT'S ALGEDONIC THEORY.

I FIND myself on the whole so thoroughly in sympathy with Mr. Stout's treatment of psychological doctrines in his *Analytic Psychology*, and I so sincerely admire the work he has done, that I hesitate to express dissent from certain special points in his volumes which seem to me open to criticism. But the value of his work is already so widely recognised that it will evidently be generally consulted by psychologists for many years to come, and as the author has done me the honour to treat me as an opponent worthy of criticism I feel impelled to ask the readers of MIND to allow me to examine briefly the differences between us. These differences I am sure are on the whole not as formidable as would appear from the text of Mr. Stout's concluding chapter, although, as will presently be seen, they cannot be harmonised in certain directions in which I still think Mr. Stout is in error, notwithstanding his careful and acute argument.

In the first place let me say that it is a great satisfaction to find Mr. Stout abandoning the tripartite division of mental phenomena into knowing, feeling and willing. That this classification is an obstruction to the scientific treatment of mental life has long seemed to me obvious: the first psychological article published by me (MIND, Oct., 1889) was written because I felt the doctrine to be unsound. I must confess however that Brentano's scheme, which Mr. Stout practically accepts, does not seem to me to present a thoroughly satisfactory way out of the difficulty; for while a classification on the basis of the mode in which consciousness refers to an object introduces a most interesting and valuable method, it is one which fails to emphasise certain important mental aspects. It fails, for instance, to bring into proper prominence the temporal qualifications of conscious life, gives little scope for the discussion of expectation and memory. Perhaps Mr. Stout expects to cover this ground more fully in his promised *Genetic Psychology*, but it will still remain a defect in his system, it appears to me, that these subjects are not treated fully under analytics.

Before considering Mr. Stout's discussions of theories of Pleasure and Pain in which he treats me as an opponent, I wish to call attention to certain of the positions he takes which seem to me to

involve errors of analysis, errors which one scarcely expects from so acute an introspectionist.

Mr. Stout says very little concerning the emotional states, and that fact, taken with what he does say concerning them, seems to me to show that he has not given to this part of our mental life the attention it deserves. "Every Emotion," he says (vol. i., p. 115), "such as fear, anger, indignation, etc., contains in intimate combination both feelings of pleasure and pain and feelings of desire or aversion." Now clearly this cannot be defended as an accurate statement: there are certain well-recognised emotions which appear to me to be entirely apart from desire and aversion; of such emotions surprise is an example; and it may be noted in passing that the algedonic quality of surprise is so unemphatic that Prof. Bain finds surprise to be in his experience a state of indifference, of "neutral excitement"; my own introspection leads me to think that in most cases surprise is practically "indifferent," although at times it may be pleasant and at other times it may be painful.

Mr. Stout's difficulty here seems to be due to the fact that he does not always hold to a correct view of the nature of desire, as appears clearer I think a little farther on.

But just here let us note that the difficulty above spoken of disappears if we hold, as I hold, that the emotions on the one hand are the psychic coincidents of instinct actions, are what I have called "instinct feelings," to which pleasures and pains attach as they attach to all forms of sentience: that desire on the other hand is the psychic state involved when an idea which we appreciate as possible of realisation in an apperceptive system which arises, nevertheless fails of realisation in that system. Desire is markedly algedonic inasmuch as it involves the pains of obstruction, and usually has attached to it the anticipation of pleasures which would accrue if the realisation were completed. When there is an inhibition of the instincts which if expressed in instinct action would produce emotion, then *impulses* arise, and there is then also a tendency to the appearance of a persistent idea which we recognise as realisable but not realised, *i.e.*, of a desire; but the emotional states, which are active states, and the impulses and desires, which are states determined by partial inhibition, are to my mind clearly separable. That I am correct in my judgment as to the source of Mr. Stout's difficulty becomes clearer I think when we consider his discussion of desire and aversion.

Desire is a term which common folk in general, and not a few clever psychologists, use loosely, sometimes as exclusive and sometimes as inclusive of impulse. Strictly speaking desire is exclusive of impulse, as becomes apparent when we consider certain cases of desire in which impulse does not appear; *e.g.*, the desire to recall the name of a man whose face is familiar. But desire is usually followed quickly by impulse which is the coincident of restricted tendencies to motor reaction, and it is therefore not to be wondered at that in common speech desire and impulse tend

to be identified: but this fact surely gives the psychologist no excuse for such careless identification.

Mr. Stout speaks of desire and aversion as "the negative and positive phases of conation" (vol. i., p. 132). Here clearly we are dealing not with desire, if my suggestion as to the proper usage of the term is correct, but with impulsive phenomena, with "endeavour to and endeavour from" (p. 133); with longing (which Mr. Stout calls desire) and aversion. It is evidently because Mr. Stout looks upon desire in this light that, as we have seen above, he connects it so closely with emotion.

Emotions are "instinct feelings," the coincidents of instinct actions, and are thus closely connected with impulses which are all of one form which is typical in the restriction of instinct actions which would appear were restriction removed.[1] Unless I am mistaken desire is a mental phase of a different nature from impulse.

If the word desire is correctly used it has no opposite in aversion: the idea which fails of realisation in desire may be the presence of an object or its disappearance, or may not be related to either its presence or disappearance. But certain of the impulses which *follow* desire may appear in the opposite phases described by Mr. Stout. Desire, as Mr. Stout here uses the term as equivalent to *longing*, is that special form of impulse which leads us towards the object stimulating us to the reaction, and it of course has its opposite in that other special form of impulse which leads us away from the stimulating object, *viz.* aversion.

Let us now turn to Mr. Stout's doctrine of Pleasure and Pain, which he states thus (vol. ii., p. 270): "The antithesis between pleasure and pain is coincident with the antithesis between free and impeded progress towards an end. Unimpeded progress is pleasant in proportion to the intensity and complexity of mental excitement. An activity which is thwarted or retarded either by the presence of positive obstruction, or by the absence of co-operative conditions, or in any other conceivable way, is painful in proportion to its intensity and complexity, and to the degree of the hindrance." Mr. Stout makes a strong argument in favour of this theory, but it seems to me to be open to certain fundamental objections which he appears to have overlooked.

Let us first consider the doctrine of Pleasure. In the first place it seems clear that in our complex organisms there can be no such thing as absolutely "free and unimpeded progress to an end," at least no such thing in any case where consciousness is affected by the action: if there are any cases of such unimpeded progress they

[1] I use this expression because certain impulses are determined by the restriction of acquired habits which are pseudo-instincts, not being inherited in the form in which they appear, although they have all other characteristics of true instincts.

are only to be found among the reflex actions, and then only by those who hold (as I do not) that reflex actions do not affect consciousness at all. If this be true it follows from the theory that all distinctly conscious progress to an end must be in some degree painful. The only way in which we can account for the appearance of a pleasure is by assuming that there is what we may call a norm of obstruction which produces very little pain, or what we call indifference; and that if the obstruction be lessened below that norm pleasure is produced: this however is not Mr. Stout's theory, and is evidently untenable.

In the second place I fail to see how it is possible under this theory to account for the unquestioned fact that pleasure decreases, and is finally displaced by pain, if the psychosis involved in the progress towards an end is continued under conditions of intensity. Under the theory this can only be explained I fear by supposing the continuance to involve a decrease of freedom, which is really an increase of obstruction; and as no pain is noted in such cases, but merely a decrease of pleasure, this involves the supposition that an admixture of pain with the pleasure balances and obliterates part of the pleasure. But I find no evidence in my own consciousness, nor in any psychological facts, of any such plus and minus action in the play of algedonic qualities.

Turning now to the theory of Pain. If the pain is determined by the degree of hindrance, then with a given amount of vividness and complexity the pain should increase with the amount of hindrance; we should therefore expect to note as a common experience, in connexion with a continuance of a psychosis determined by progress to an end, an increase of pain due to increase of hindrance, up to a point where the hindrance involved absolute prevention of the activity; and then either a sudden disappearance of the psychosis to which the pain was attached, yet withal if that were possible a maximum of pain; or else a sudden disappearance of the pain together with the sudden disappearance of the psychosis to which it was attached. So far as my own experience goes I find no evidence to corroborate this result of the theory. Moreover, if we go to the root of the matter, so far as I can see the only difference between a hindered and a free progress under Mr. Stout's theory must be in the fact that some elements of the total complex psychosis are totally inhibited where hindrance occurs; and this partial inhibition involves a cessation of a part of the total sum of the neural activities which have the psychosis as their coincident. This cessation of the partial activity would involve the failure of all effect upon consciousness from the inhibited element and could scarcely give rise to a special conscious state such as pain is. It is this to which I refer when I say (what Mr. Stout quotes, vol. ii., p. 293) "that painful restriction of the normal activity in an organ does not imply *action* but rather *non-action* in the organ restricted". No theorist with whose work I am acquainted would hold that mere non-activity could produce an effect in con-

sciousness, and surely there is no possible ground in Mr. Stout's exposition of the relation between neural and psychic activity for supposing that he would uphold such a view.

Under my own theory what appears as hindrance pain is due indirectly to what is really action under certain special conditions. I may be in error as to the nature of these conditions, but that does not disprove the general hypothesis.

I look upon pleasure and pain as feelings of relation. If *a* be the psychic side of a physical activity *A* which is normally produced by stimulus *S;* then if *A* be produced by stimulus S – n, or by stimulus S + n, we should certainly expect to find a noticeable difference in consciousness due to the changed relation of S and A, while neither *A* nor *a* would be themselves markedly different; the difference of relation between *S* and *A* produces under my view the pleasure (S – n) – pain (S + n) quality quite apart from, although coincident in time with, *a*.

Or to put this diagrammatically:—

If S produces *A* we have content *a* with no pleasure and no pain, a state usually spoken of as indifferent.

If S – n produces *A* we have content *a* and pleasure, surplus stored forces being called into action and producing *A* when the stimulus is subnormal.

If S + n produces *A* we have content *a* and pain.

Notwithstanding Mr. Stout's criticism I cannot but think my view more plausible on the whole than his: especially in consideration of his acknowledgment that his theory practically breaks down when it comes to deal with sense pleasures and pains (vol. ii., p. 303).

But passing over for the moment the points of objection raised against my view, which do not seem to me to be important and which the reader may not care to consider, I wish to call attention to the fact that in what seem to me to be the main fundamental doctrines Mr. Stout and I are in entire accord.

My monograph to which the author refers so appreciatively was written to show that the current doctrines of pleasure-pain are untenable and to present a theory which seems to me to accord more accurately with experience. With my objections to these current doctrines I find Mr. Stout expressing frequent agreement. How far he and I are in accord in our own theoretical positions will appear if I present my view and his in close connexion.

1. I hold that pleasure-indifference-pain are qualities of mental states, and this is my main point of contention.

Mr. Stout I judge would accept this position. He joins with me in rejecting the Kantian view of the existence of "feeling" as a special mental mode; and such modifications of that view as Dr. Ward's.

2. I showed first that pleasure and pain are not directly related respectively to welfare or disaster to the organism.

Mr. Stout agrees with me here (vol. ii., p. 268).

3. But I tried to show that they are related to the efficiency or non-efficiency of mental elements, *i.e.*, the parts of consciousness held in attention; and that they are presumably related to efficient and non-efficient action of the neural elements that are coincidently active.

I judge that Mr. Stout would agree to the psychological part of this statement at least.

4. I surmise that pleasure-indifference-pain are qualities one of which must and any one of which may belong to any separable element of consciousness, any momentary ridge of the wave of mentality (indifference being a mere point of passage from pleasure to pain, in reality not often experienced, although careless observers mistake slightly pleasurable and painful states for states of indifference and thus come to consider indifference broader than it really is).

In this I think Mr. Stout agrees with me also.

Now evidently we are both defending one and the same psychological doctrine, one which is in my view very important indeed, one which in truth is not current in our day but which we both hope will prevail: and in the main in respect to this important contention we are in agreement.

The directions in which we disagree are comparatively speaking of very inferior import, and I cannot help regretting that Mr. Stout makes so much of the differences between us and so little of the agreement.

We both agree again that having presented a theory which is not current we ought to make attempt to show that it is in harmony with other psychological facts, and that if possible we should try to show that it is not in opposition with what little we know of the physiological activities coincident with the states we are studying. This we both try to do and our critics must judge which of us is the more successful.

In closing these notes I may be allowed to say a few words concerning the objections raised by Mr. Stout to my views, to which I shall refer by page numbers of the second volume of his book in order to avoid wearying the reader.

P. 291. In the consideration of a long day's work undertaken by a man to whom such work is habitual we note at the first a flush of pleasure connected with special efficiency of action due to the rest of the night past; but soon the nutrition becomes closely equalised to the drain upon the active parts; the pleasure becomes slight and turns very gradually into slight pain; the period of so-called "indifference" is to the careless observer a long one. The expectation mentioned by Mr. Stout would be entirely unwarranted unless work during the whole of a long day were only occasional to the worker, and in such a case the expectation would probably be realised.

P. 292. I think a careful reader of my answer to Prof. Bain is not unlikely to find my explanation more plausible than Mr. Stout will allow.

P. 293. When I say that painful restriction of the normal activity of an organ does not imply *action* but rather *non-action* in the organ restricted, I do not refer only to inactive muscles as Mr. Stout surmises. As I have explained above, and very fully in my book, I refer to the neural organ (whatever it is or wherever it is placed), activity in which is supposed to be coincident with the appearance in consciousness of the element that disappears when restriction occurs.

P. 295, l. 2. The blood supply will indeed be smaller *eventually* but not immediately: when sufficient time has elapsed for this supply to be reduced the pain should disappear, and this accords with our experience.

L. 6. If this whole explanation *looks like* a mere figment invented for the occasion, I am glad to say that it was not an invention of this nature: and I beg further to suggest that it appears to me to be no more improbable than the very similar explanation made by Mr. Stout himself in another connexion in vol. i., p. 220, last four lines ff.

P. 297. The facts in reference to over-tiredness, which Mr. Stout raises as an objection, have been shown to be in accord with my theory and used to corroborate it (*Pain, Pleasure and Æsthetics*, p. 212, close of Sec. 12), a fact which Mr. Stout has evidently overlooked.

P. 299. Evidently Mr. Stout has failed to read carefully p. 289 of my book above referred to, or I have altogether failed to express my meaning, otherwise he could not have written what he has written concerning my explanation of hunger. The nutrition carried by the blood to the organs which are active in the process of digestion is of course not to be confounded with the food stuff placed in the mouth and carried into the alimentary canal. It is to be noted also that I do not think he is correct in stating that "hunger proper is a sensation definitely localised in the alimentary canal". That is not my experience, nor is this statement considered accurate by a number of eminent physiologists to whom I have referred the subject.

HENRY RUTGERS MARSHALL.

VII.—CRITICAL NOTICES.

Man's Place in the Cosmos, and other Essays. By ANDREW SETH, M.A., LL.D., Professor of Logic and Metaphysics in the University of Edinburgh. Edinburgh and London: William Blackwood & Sons. Pp. viii., 308.

THE volume before us is a collection of Essays which have been published in various magazines during the past six years. But their republication in their present form has a fresh interest; for, while they are, almost without exception, reviews of books which have attracted the attention of all students of philosophy in recent years, and while their immediate topics are thus various and occasional in character, these essays yet possess an unusual degree of unity both in their real subject and in the method of philosophical criticism which they apply. The title of the first essay belongs not merely to it but to the volume as a whole: man's relation to nature is the theme which is approached by different paths in all the discussions. With Mr. Seth this is the central question of philosophy; and he never departs from it, however much the form in which it is raised may vary with the occasion that prompts him to consider it.

In their method, too, no less than in their problem, the discussions of the present volume are in substantial agreement both with each other and with Mr. Seth's previous writings. Each of the Essays before us embodies, in one form or another, the 'Argument from consequences,' whose use is expressly defended in a note to the Essay on "Mr. Balfour and His Critics". "The absolute value of the ethical life" (vii.) is frankly assumed by Mr. Seth; and the degree in which they are consistent with this assumption is the criterion which he applies unsparingly to the various theories which he considers. The essays are thus not only arguments to a single conclusion, but also arguments whose method is fundamentally the same. Mr. Seth's interpretation of the canon that reason must remain consistent with itself does not allow him to be satisfied with principles of explanation which are only applicable to cognitive experiences. Experience, with him, is wider than knowledge; and morality is as good an experience as any other. He refuses, therefore, to admit the finality of any principle of explanation which is inadequate to account for morality or which does less than justice to the postulates of

"ethical and spiritual life" (308). The contention that man's personal agency and his spiritual experiences furnish "our only clue to the mystery of existence" (vii.) determines the whole trend of Mr. Seth's argument.

The interest in this contention is very obvious in the first Essay on "Man's Place in the Cosmos," a review of Mr. Huxley's Romanes Lecture on "Evolution and Ethics". Mr. Seth is led to discuss the Romanes Lecture by his sympathy with its author's "insistence on the gulf between man and non-human nature" (7); for "if man with his virtues and vices be included *simpliciter* and without more ado in a merely natural order of facts, we inevitably tend to lose sight of that nature within nature which makes man what he is" (7); and this tendency is illustrated by Mr. Seth in a criticism of naturalistic literature which shows that it is no purely scholastic debate, but a reflexion upon living issues of thought and feeling, that leads him to insist that "the breach between ethical man and pre-human nature constitutes without exception the most important fact which the universe has to show" (12). Mr. Seth does not indeed accept that denial of the unity of the cosmos which is implied in Mr. Huxley's antithesis of the "cosmic process" and the "ethical process". He finds the merit of the evolutionary theory of ethics in its "frank recognition of the unity of the cosmos," in which "it is, so far, at one with the philosophical doctrine of Idealism to which it is otherwise so much opposed" (14). But he defends Mr. Huxley's contention on the ground that "it is really directed against the submergence of ethical man in the processes of non-ethical and non-human nature," and that it is called for by the tendency of the evolutionary method of explanation "to substantiate antecedents in abstraction from their consequents, and thus practically to identify the cosmos with its lowest aspects" (19).

Mr. Seth also protests against Mr. Huxley's absolute and unguarded assertion of the moral indifference of nature, but finds in it the truth that non-human nature sanctions only a very limited range of moral qualities, and these only so long as the environment tends to produce or perpetuate them. The contention in fact is substantially that of Mill—that non-human nature furnishes no trustworthy moral guidance. It is the lesson of Mr. Seth's criticism, as well as of the lecture which he criticises, that what is called biology, and especially that the idea of evolution, is a reflexion upon mechanical sciences of living forms which presupposes conceptions of value or worth borrowed from elsewhere. Nature as nature means no more than it did for morality, although we may be led to suppose that it is capable of teleological interpretation. The possibility of such interpretation, the unity of the cosmos, depends, as Mr. Seth points out, on the recognition "of an End of absolute worth or value which is realised or attained in it"; and such an end is found "only in the self-conscious life of man, in the world of Truth, Beauty ,and Goodness which he

builds up for himself, and of which he constitutes himself a citizen" (27). Unless this spiritual world be the true interpretation of all reality, it becomes baseless and absurd; and its absurdity means that nature itself is void of all significance. But "the demand for an End-in-itself—that is, for a fact of such a nature that its existence justifies itself—is as much a necessity of reason as the necessity which impels us to refund any phenomenon into its antecedent conditions. And further, unless we sophisticate ourselves, we cannot doubt that we possess within ourselves—in our moral experience most conspicuously—an instance and a standard of what we mean by such intrinsic value" (28).

Mr. Seth suggests an idealistic interpretation of the universe as the legitimate conclusion of the ethical opinions which, in point of fact, did not lead Mr. Huxley beyond pessimism and agnosticism in theory, and a personal attitude of "Stoical heroism".

This Essay is followed by a republication of the address on "The Present Position of the Philosophical Sciences," with which Mr. Seth entered, six years ago, on the duties of his present chair. This, which is the earliest of the contents of the present volume, stands perhaps in a somewhat looser relation to the book as a whole than the other Essays. Except in its concluding pages on mechanical and teleological explanation, it does not touch the topic which gives their unity of character to the other discussions. But it would be ungrateful to depreciate on this account the pleasure of renewing acquaintance with an address whose admirable and judicial insight is all the more patent after this interval of time, and which is, among other things, an object-lesson in the degree of precision and instructiveness that may be imparted to a discourse intended for a general audience.

The Essay which follows—on "The 'New' Psychology and Automatism"—is primarily a criticism of Münsterberg's Psychology and more particularly of his *Die Willenshandlung*. Mr. Seth does not contest the reasonableness of the attempt to find 'natural explanations' in psychology (67); and he does not object to the "intimate linking of the psychological and the biological" (70), which is characteristic of contemporary psychology. There is much, also, in Münsterberg's account of volition with which he finds himself in agreement—for example, the criticism of the "innervation feeling" theory, and the assertion of the physiological unity of sensation and movement. But he finds that Münsterberg "eliminates altogether the notion of action or activity". "There is a series of happenings somehow passing before us, but no real activity, no real actor in the whole affair. In all so-called action, we only seem to act; a sequence of ideas exhausts the phenomena of will. . . . There results, in fact . . . the doctrine of conscious automatism in the most unqualified sense of the words" (94).

Mr. Seth's direct reply to the theory which he expounds in this way is that it "is in the strictest sense incredible; no amount of so-called 'evidence' in its favour would avail to make it even mo-

mentarily believable " (95). It is perhaps fortunate that this form of reply is not developed at any length; for its value must always depend upon the nature of the obstacles which hinder our belief. All scientific results are in a sense " incredible ". They cannot be imagined, that is to say, without training and effort. To some minds the doctrine of " conscious automatism " is not less credible than the cell theory. But Mr. Seth's real criticism of the theory in question consists in connecting it with a " fundamental prejudice, by which the analysis is vitiated from the outset. This prejudice may be called Phenomenalism, or perhaps best Presentationism. . . . If we insist upon phenomenalising the act of will, doubtless all the *phenomena* in the case are the ideas that preside and the perceptions that follow, with perhaps some feelings of tension in the head thrown in " (95). In fact, " to ask to know the will as a presentation is to ask to know it *as it is not*. The phenomena which Münsterberg offers us are very likely all the phenomena in the case, or if there are more, the others are like unto them " (113). In the analysis of volition into presentations " the real fact of volition is necessarily dropped " (96). The phenomenalist account of will depends upon two assumptions—that " sensation is the sole element of all psychical phenomena " and that " the will is only a phenomenon in consciousness " (98). But " to resolve the fact of conscious experience into a sequence of presentations or conscious phenomena is to omit the vital characteristic of all consciousness " (99); and " feeling and will are inexpugnable and irreducible features of experience " (101). Mr. Seth lays special stress on the part played by feeling in the development of experience, in which he finds it to be the fundamental and determining element. He criticises the relevancy of the attempt which physiology makes to give a mechanical interpretation of organic phenomena; and he argues that " volition is the action of a subject, and as such it cannot be phenomenalised " (113).

Mr. Seth, therefore, enlarges the scope of his criticism and applies it to " Presentationism " or " Phenomenalism " in general. Admitting that we cannot " *know* the fact of our volitional activity " (115) by presentations, he adopts Berkeley's distinction between " notions " and " ideas," and contends that though activity cannot be phenomenalised, yet only through it do we " lay hold upon reality and have immediate assurance of it " (118). We know activity, as it were, " by its works ".

In fact " knowledge, in its very nature, brings with it a species of foreignness " (119). There is no complete identity of subject and object. Even in the case of introspection, " knowing and being are not identical, they cannot help being different " (120). If, therefore, we reduce experience wholly to knowledge, it is impossible to explain how we have access to reality. " It is not in knowledge . . . as such, but in feeling and action, that reality is given " (123); if knowledge were not essentially personal and an activity it would bring us into no relation with reality. The validity of knowledge,

the existence of an end for human conduct, and the possibility of a teleological interpretation of reality are all at stake in the question whether there be real activity or not.

This criticism of Münsterberg's psychology deserves the attention which it has already commanded; and its publication in the present volume will doubtless extend its influence.

The general statement of the inadequacy of the psychological account of experience is peculiarly clear and impressive; and the criticism of Münsterberg's account of the will gives prominence to the fact that it is in the theory of volition that psychology falls most obviously short of complete truth. On the other hand, surely the *Willenshandlung* is something more than an "ingenious caricature," although it may perhaps be wiser to accept Münsterberg's account of it, as the product of a "harmlose Jünglingszeit," than to make it the scapegoat of modern psychology. In particular, it may be suggested that Münsterberg himself would probably not describe his theory as a denial of activity. It is a denial of mental activity only if the mind be conceived in independence of the organic process. But Münsterberg's contention is that the mental and the organic process are fundamentally related, and that the real activity belongs to the unity which they constitute rather than to either of them conceived in a fictitious independence. It must be admitted, however, that the order of his exposition and the unhappy phrase 'Begleiterscheinung' lead very naturally to the quite opposite view that consciousness is an independent spectator of organic changes with which it has otherwise no concern.

The inadequacy of pyschology as an account of experience and the special incompatibility of the doctrine of 'conscious automatism' with human activity and all that belongs to it are clearly and vigorously set forth in Mr. Seth's brilliant Essay. On the other hand, I am unable to join in his general condemnation of the "phenomenalist" or "presentationist" tendency of contemporary psychology. Undoubtedly the use of this method of explanation has been discredited by its alliance with the fictions of sensationalism. But sensationalism is only necessary to a phenomenalist psychology which seeks to complete its analysis by referring to hypothetical units of 'sensation' what really belongs to the integrity of consciousness with organic conditions; and, apart from this 'sensation' prejudice, by which the method of psychological explanation that adopts it is inevitably vitiated, phenomenalism, as it appears to me, is the essential method of psychology. No doubt, as Mr. Seth urges, the abstraction which is involved in this way of regarding experience is fatal to its claims to furnish a complete explanation; and it is as really, though less obviously, fatal to a true account of knowledge as of feeling or volition. Yet abstraction is essential to every scientific development of ordinary experience, and should, indeed, mean no more than the convenient habit of talking about one thing at a time. It is highly essential to remember that the account of things which is obtained in this way is radically

incomplete, and especially that it gives no explanation of them; and because this is apt to be forgotten in the case of psychology, Mr. Seth's trenchant criticism of the phenomenal account of volition is as important as it is effective. But, as long as its limits are not forgotten, that study of the relations of phenomena to each other which science undertakes need not be set aside as valueless in the case of psychology any more than in that of any other science of facts. It has at least a practical use. It enables us to predict and to modify the sequence of phenomena. It has a function which is not discharged by that teleological interpretation of experience which constitutes the ultimate explanation of it; and the abstraction which is fatal to complete explanation is essential to that understanding of things which enables us to follow their changes and to turn them to practical account. In so far, however, as a science of this sort is to be attempted, it must inevitably be phenomenal—a study of the relations of phenomena to one another. As Mr. Seth himself says, "Natural explanations—*i.e.*, regulated sequences and co-existences of phenomena—are what every science has to seek in its own sphere; and, accordingly, science justly regards as suspect the explanation of any phenomenon by the immediate causality of a metaphysical agent. The interjection of such a causality into the empirical connexions which she seeks to unravel, she treats as a form of *ignava ratio*" (67). Psychology, as distinct from metaphysics, is essentially concerned with the relation of phenomena to one another.

The Essay which comes next in order, on "A New Theory of the Absolute," is probably the most important in the volume. It is a critical study of Mr. Bradley's *Appearance and Reality*—which Mr. Seth considers to be "the most important metaphysical work which has appeared in England since the publication of Green's *Introduction to Hume* in 1874" (129), and "to mark the close of the period whose beginning was signalised, twenty-three years ago, by the publication of Green's work already mentioned" (132). Mr. Seth, while recognising Mr. Bradley's assertion of the fundamental unity of reality, and of the imperfection of all knowledge which neglects this unity, finds that Mr. Bradley's "condemnation of phenomena" is the consequence of a method of criticism which implies "the complete discrepancy of the One and the Many—the impossibility of realising at all in thought any kind of identity in diversity" (150). Such a preconception, Mr. Seth points out, is fatal to Mr. Bradley's attempt to give content to the idea of the Absolute, and reduces it to a mere "undifferentiated unity". Further, it implies an idea of predication, which, if it were adopted, would make all speech unmeaning, and which misinterprets the law of identity as non-contradiction. That law, which really means only that in reasoning the terms that are used must retain an identical sense, is taken to mean "the impossibility of a thing existing as the unity of diverse qualities"; and this interpretation of it rests on an "illegitimate extension to reality or experience of

a law which holds true only of concepts as concepts" (158). In point of fact—and the question is one of fact—"unity in multiplicity, identity in diversity, is just the ultimate nature of universal experience" (163); and instead of being made a separate and unintelligible contradiction this unity of differences ought to be made the very measure of intelligibility. "The thing and its qualities is a mere analogue of the self as a many in one; all our terms of explanation, all the categories of thought are drawn, in like manner, from the life of the self" (163). It follows from Mr. Bradley's condemnation of this essential character of experience that, when he comes to consider 'reality' as distinct from 'appearance,' his idea of it is imperilled by the abstract logic which he has adopted; and, though he does not abandon the attempt to conceive the Absolute as unity which retains in itself differences and distinctions, "that line of thought is more than neutralised by the Spinozistic or Schellingian tendency" (169). It is this tendency that leads Mr. Bradley to assert the impossibility of truth—on the ground that truth is never all reality and that the distinction of subject and predicate which is essential to knowledge is fatal to truth. Mr. Seth excuses this agnostic attitude as an affirmation that experience or reality is more than knowledge; but he points out that Mr. Bradley's rejection of the unity of differences, which experience offers, commits him to an idea of the Absolute which makes it less than the least of experiences. Speculation which repudiates the form of knowledge makes absolute truth a complete emptiness; and it is the object of Mr. Seth's criticism to show that Mr. Bradley's attempt to conceive the Absolute in a more real way succeeds only in proportion as he evades the difficulties which are created by his criticism of experience. He is able to conceive it as a unity of difference by declaring that it is this "*somehow*" and disregarding the demands of his own assertion that "the question is *how?*" Mr. Seth admits, however, the existence and importance in Mr. Bradley's work of another way of thinking, in which "Mr. Bradley stands much more closely under the influence of Hegel" (192). This line of thought finds in appearances our only clue to the nature of the Absolute, while the doctrine of degrees of truth which finds in appearances "a graded or hierarchical system" guides an interpretation of appearances by which the world can be shown to realise an absolute principle. But this idea of the Absolute is not consistently maintained; and Mr. Bradley wavers between the pantheism and the agnosticism from which he endeavours to deliver philosophy. "The Hegelian passages have the air of being more or less inconsequent disclaimers in a book which, as a whole, expresses an essentially Brahmanic attitude of mind" (201).

It is naturally of peculiar interest to turn to Mr. Seth's appreciation of his author's positive service to philosophical discussion. He finds this service first in Mr. Bradley's realisation that "Life

is more than logic, and God is more than man. The categories—that is to say, the structure of reason—may be said to constitute the essence of God, the ground-plan of the world; we can understand such a statement and recognise the truth it expresses. But 'neither Gods nor men are in very truth logical categories'. And, again, God is in history without doubt; but yet we trust He has a richer outlook than He enjoys through any pair of human eyes" (204). Mr. Bradley recalls philosophy from a narrow humanism and rationalism to a true insight into that absolute life in the universe which does not depend for its reality on human self-consciousness. The value of this recall, however, is impaired by the way in which Mr. Bradley gives effect to it. He refuses to interpret the Absolute in terms of human thought; but his wish to give it a richer meaning issues in an attempt to characterise it in terms of that which is not more but less adequate than the thought which he rejects. For feeling, which is Mr. Bradley's analogy for the life of the Absolute, is in itself no less partial and ambiguous than thought; and, while it is a real element in experience, its realisation is a function of thought, and it cannot itself furnish any positive account of ultimate reality. In fact, experience is the only reality for us; and whether we attempt to characterise reality by falling below it or by going beyond it, our departure from our proper sphere leads to an outer darkness. Mr. Seth's conclusion is "that the attempt, metaphysically, scientifically, or literally to determine the Absolute as such, is necessarily barren"; and, he adds, "both religion and the higher poetry—just because they give up the pretence of an impossible exactitude—carry us, I cannot doubt, nearer to the meaning of the world than the formulæ of an abstract metaphysic" (220). It is impossible not to wish that this most serious declaration, which Mr. Seth makes very prominent, had been more fully explained. Taken as it stands it forms a rather embarrassing conclusion to a metaphysical discussion. The consciousness which is expressed in art and religion is the source and problem of speculation; but in itself it yields no speculative result. It is essentially experience and not explanation. That "the fear of the Lord is the beginning of wisdom" cannot absolve philosophy from its endless task; and Mr. Seth can hardly be suspected of asking us to compare or choose between philosophy and religious experience. He seems rather to suggest that a philosophy of experience should be substituted for abstract speculation, and that the interpretation of experience should test its varying degrees of truth by making human ideals an absolute criterion. But this is not the direct meaning of the statement quoted.

This is a suggestion which is further developed in the Essay on "Mr. Balfour and his Critics". After commenting upon the singular division of opinion which Mr. Balfour's *Foundations of Belief* evoked, Mr. Seth points out the "limited and hypothetical character" of the scepticism of Mr. Balfour's later as contrasted with his earlier volume; and he explains the appearance of a more

determined scepticism as the result of an unfortunate choice of words. The question of Mr. Balfour's terminology has already been pretty fully discussed; and Mr. Seth is inclined rather to explain and excuse than to defend it. Yet a less sympathetic critic might have hesitated to explain the misuse of words so important as "reason" and "authority" as Mr. Seth does. "Delight of battle" (240), and "love of mischief" (283) are amusing enough motives. But a philosophical book in which they play a leading part becomes something of a practical joke; and one may hope that some better reason prompted the use of words which have done so much to bewilder the argument of Mr. Balfour's book. Certainly if the author meant to make mischief, a good deal of it has come his own way.

But Mr. Seth turns more seriously and with more unreserved approval to the use which Mr. Balfour makes of "the argument from needs to their satisfaction". This "is the constructive principle on which Mr. Balfour depends, and furnishes . . . the key to a true understanding of the book". Mr. Seth notes its similarity to Kant's transcendental method, and its distinction from ordinary inferential reasoning. He does not, however, suggest that it has less evidential value than any other form of proof. "If by premises . . . we understand either isolated intuitions or the particulars of sense, then it may be said that the transcendental argument neither starts from premises nor arrives at a conclusion. Yet, in a more vital sense, experience itself, as a concrete fact demanding explanation, constitutes the premise from which we advance (or rather regress) to its implied condition or explaining cause" (281). That which is an essential postulate of knowledge is proved with a conclusiveness which nothing can, in the nature of the case, go beyond.

Mr. Seth prefers the word 'postulate' to the other word 'need' which Mr. Balfour sometimes uses in the same sense; and this preference is, in a speculative interest, of the highest importance. For speculation would be at an end if the relation of beliefs to our ethical or religious needs were to determine their acceptance or rejection. In such a case nothing would remain to us but to retire in pious scepticism to the practice of the domestic virtues. It is fortunate, therefore, that Mr. Seth has been careful to define the argument from consequences as an argument not from subjective needs to the constitution of the objective world, but from experience as a whole to the reason on which it depends; for any argument from one sort of experience to another must be something of an intellectual vagrant; and the very problem of philosophy depends upon the impossibility of subordinating experiences to one another in this way. It is the apparent collision of experiences that forces us to investigate the principles or postulates which determine our experience as a whole, and to rationalise each part of it by removing its apparent and fictitious separateness. It is not therefore possible to argue directly from our needs

to a conception of reality; but no account of reality can be accepted as final which is not an interpretation of moral as well as of cognitive experience.

Mr. Seth's volume is thus a contention on behalf of teleology. He criticises the purely mechanical interpretation of life and intelligence, and the reduction of reality to a system of abstract conceptions. His central argument is that no true interpretation of things is possible which does not present them as means to an end, and that our consciousness of ends must in the last resort determine our view of the world. Such an argument is of course rather an indication of what should be attempted than a defence of any existing interpretation of things; for teleology, like truth, "is the cry of all, but the game of only a few". Among those who believe that things are only truly understood when they are seen to realise an end, no one, it may be said, attempts a serious or complete account of things from this point of view. The necessity for such interpretation has been urged once and again—seldom with such felicity and point as in the volume before us; but the interpretation itself does not exist; for it is not furnished by mere defence or statement of moral experience, any more than by the laborious ingenuity of Paley. It must be an account of things in which their whole nature is shown to belong objectively to a rational system. The suggestion of Mr. Seth's Essays is thus critical rather than constructive. They insist upon the necessity of teleological interpretation, and they indicate certain limiting conditions which it must fulfil. They criticise current modes of explanation, and call attention to neglected aspects of experience. They do not set out to give the explanation which they demand. But it is impossible to read them without arriving at a clearer idea of the nature of philosophical interpretation and of the relation to it of the important books which Mr. Seth has selected for criticism.

CHARLES DOUGLAS.

Essai Critique sur l'Esthétique de Kant. Par VICTOR BASCH, Docteur ès Lettres. Paris: Félix Alcan, 1896. Pp. xiv., 623.

IT is a testimony to the vitality of Kant's Æsthetic that after a century has passed it should form the occasion not only of this immense volume, but of a plan, as the author tells us, including three more volumes, presumably on the same scale. For besides the present examination of Kant's doctrine, the author proposes to produce, in separate works, a study of its genesis, an exposition of its completed form, and an account of the systems which have sprung from it. One could almost think that the exposition at least is superfluous, in addition to the criticism now before us.

M. Basch takes his problem on the grand scale. He treats the

general theory of Feeling and of Judgment at considerable length before settling down to the more intimate criticism of Kant's æsthetic as involving these theories. The general question of Kant's method of discovery, as briefly treated in the first chapter, is also, it might be urged, of a purely introductory character. The author's point in it is that Kant's *a priori* method is probably not valid at all, but in any case is not valid for beauty, which ought not to be treated in a way simply parallel to the treatment of knowledge and morality. The elaborate studies of feeling and of judgment which follow seem not to give results adequate to their extent, so far as any special bearing on æsthetic is concerned. After scrutinising many theories of feeling the author approves the teleological evolutionary view, and also strongly asserts the originality of feeling in mental life. He seems anxious to avoid the subordination of feeling to judgment, and to pave the way for the reinstatement of the agreeable of sense as an element of the beautiful. In the study of judgment there is a similar discursiveness. Is Judgment necessarily subsumptive, and should the Reflective Judgment have been treated as subsumptive and not rather as Inductive? Now, does all this really matter, for Kant's æsthetic theory? And is not the development of Kant's thought from the "Critique of Pure Reason" to the "Critique of Judgment" pretty much common ground at the present day?

In the fourth chapter we arrive at a specific treatment of Kant's theory of the judgment of taste, which is followed from its primary form as immediate, through the well-known development in which it acquires content and substance by what the author refers to as Kant's "turning movement". All the steps of this development are distinctly appreciated by the author, but appear to him, nevertheless, as extensions to which for one reason or another Kant has no real right. Kant's æsthetic judgment unites the characteristics of knowledge and feeling, and this union, as illustrated by all the paradoxes and contradictions attaching to the judgment in question, as, for example, in the problem as to whether the feeling or the judgment comes first, is for M. Basch simply impossible.

"Un jugement qui doit être à la fois, *en même temps, zugleich*, un sentir et une règle des facultés supérieures de connaître, nous a semblé inadmissible, parceque contradictoire en soi." It is needless to state all the details throughout which this attitude is maintained. The conclusion is that universality and necessity, if really to be retained, involve intellectualism, and Kant falls back to Leibnitz, abandoning the pre-eminence which he had seemed to assign to feeling.

The following chapter deals at immense length (it fills more than 170 pages) with æsthetic feeling, both as described by Kant, and as explained by the author. To begin with, the various degrees or phases of the æsthetic sentiment as portrayed by Kant are discriminated as a series of sentiments which he has erred by identifying. The most elementary of these, we are surprised to

find, is set down as the agreeable of sense; not that M. Basch ignores Kant's exclusion of this factor from æsthetic appreciation, but that he thinks himself justified in proving, from Kant's view of intuition, that the "apprehension of form" can mean nothing except by including the perception of the sensuous manifold. I mention this argument, because it seems to me only too characteristic of a certain literal way of proceeding which the author follows throughout. The series of types of sentiment which he finds in Kant's æsthetic emotion is constructed by inferential criticism of this kind; every characteristic imputed by Kant in his progressive analysis to the æsthetic attitude of mind being represented as a different kind of æsthetic emotion. Having thus separated the factors of æsthetic feeling, the critic proceeds to raise the question whether they can all be united in the single type of emotion attendant on the harmonious operation of imagination and understanding. One ground which plays a part in his negative decision is noteworthy. It is, that if this—which he reduces to the appreciation of unity in variety—were the sole type of æsthetic enjoyment, every presentation and every form would have to be accepted as beautiful. It does not occur to him that, under the reservations which the principle itself would impose, this result might be defensible.

The rejection of Kant's analysis brings us to the author's own account of the factors which enter into æsthetic feeling. They are three: the agreeable of sense, as the consciousness of a maximum of stimulation with a minimum of fatigue; the intellectual enjoyment of the union of a manifold; and the associated feelings of pleasure.

The introduction of the first of these factors raises the whole problem of æsthetic interest. M. Basch objects, on grounds which are probably valid as Kant's views literally stand, to both of the explanations by which Kant has attempted to harmonise the phenomena of sensuous beauty with his theory of æsthetic form—the notion of a sub-consciousness of numerical law, and the notion of purity. Yet for all that, Kant's suggestions very probably point to a true principle, and it might be urged that the explanation which his critic suggests here and expounds later amounts in sum to much the same as that of Kant. Either—we might say in M. Basch's style—the pleasure of sense is a pleasure in its own right, simply as felt, and without sophistication; and then what is gained by adding that it is—*i.e.* implies or rests upon—a certain relation of stimulation to fatigue? or it is touched with a consciousness of embodiment of law, adequate response to stimulus, harmony of function, or the like; and if so, then why not apply Kant's principle of form to M. Basch's explanation?

In discussing this whole problem of form and the correlative question of interest, M. Basch once more seems to be too much hampered by mere terminology. The celebrated definition of "interest" as "pleasure in the idea (Vorstellung) of the existence

of an object," as distinguished from that pleasure in the pure form which alone is æsthetic, seems to him too uncompromising. Surely, he argues, there is a love of beauty, an interest in beautiful things, as appealing to us in some way, as satisfying some need of our nature? No doubt, but this is not what Kant calls an interest, *i.e.*, a partiality founded on an inclination which appeals to us as particular sentient or appetitive animals, and not through our universal nature. A universal or rational interest is a disinterested interest, and this Kant wishes to distinguish from a partiality founded on a particular inclination. The mode of expression which Kant has chosen for this distinction is no doubt open to criticism. What is the difference between the idea of the existence of an object, and that presentation of the object which is valued for itself, or for its form alone? M. Basch seems to treat it, so far as valid, as simply standing for the distinction between the "lower" and the "higher" senses. And no doubt this is roughly true; but the principle involved demands examination. That is to say, if the pleasant sensations of eye and ear are beautiful, and the pleasant sensations of taste, smell, softness, warmth, or repose, are not beautiful, are the former felt or appreciated in a way in which the latter are not? Or if both kinds are just pleasurably toned sensations of sense, how is it possible to justify a distinction between them as one of principle? It is much more probable that some continuity of character exists between the two classes. The fact is, perhaps, that the "existence" for practical purposes, which Kant has in mind in his definition of interest, always implies something not presented, perhaps not capable of being presented. The object is contemplated as a means, and as a means to something which is at its root a mere stimulus to, or intensification of, vital feeling in a particular animal mind. But, in so far as general elements of content are discriminated along with the aim at such an existence, they, it might be suggested, are capable of constituting "form"; that is to say, a complex presentation, the harmony, contrasts, and symbolism of which can be accepted by the mind with disinterested interest. I doubt *e.g.* if the total absence of æsthetic quality in taste (gustatory sensations) can be theoretically maintained. And then the relations of the lower and the higher senses would merely be that the "lower" were more apt, from the limitation of their sphere, to be connected with mere "existence" —undefinable relation to desire; while the higher are more apt to present relations of "form," *i.e.* organised contents carrying an import and general interest of their own. But neither character would be in principle confined to either group. It is worth noting that on this view "existence" comes to mean almost nothing at all; nothing, that is, explicit or definable; while form or "appearance" tends to coincide with the reality of things—what they are in themselves or for disinterested perception.

Although M. Basch may seem in this part of his argument in-

different to the unity of the æsthetic sentiment, yet in his own very interesting theory he suggests that it has a common or predominant character, namely, that of sympathy. This term must indeed be understood in a wide sense to meet the demands which he makes upon it. He is following, in fact, Vischer's conception of *Einfühlung* or Groos' of "Imitation intérieure"; and it is very noteworthy that he applies these ideas to the question of the mode in which pleasurable sensations are invested with æsthetic quality. Besides this factor, he maintains indeed that there is a slight element of pleasure from the normal exercise of the nerves concerned in perception; but this, he explains, is altogether inadequate to account for the occurrence of æsthetic feeling in connexion with sense-perception. The really operative factor is "symbolic sympathy," by which our nervous system responds as a whole to the stimuli of the external world; and not only is it so *de facto*, but we are in some degree aware of it, and "feel ourselves into" the colours and sounds which we enjoy, lending them a sort of personality, and divining in them a pre-established harmony between the world and our physical organisation. It is, M. Basch observes, an expansion of Kant's idea of harmony between imagination and understanding. But is it not plain that the relation which M. Basch relies on is either merely *de facto*, and thus might be extended, say, to the actual relation by which our food nourishes us; or is somehow specially conveyed and reinforced for consciousness by the pleasurable feelings in question, and thus has surely gone beyond the agreeable of sense? Have we not here one of those very significant cases—and at this point M. Basch's alliance with M. Tarde is suggestive—where the protesting empiricist, who sees no cogency in the traditional idealism which confronts him, is beginning under stress of facts to say the same things over again in other formulæ? The serious critic of Idealism or *a priorism* should always be carefully watched when he begins to construct, and to commit himself to distinctions between what is and what is not of general value.

The rejection of universality and necessity with which the present chapter closes, is therefore no very important matter. It belongs to the half-hearted attitude natural to this phase of empiricism. To argue from the variations of individual taste against the universality implied in the æsthetic judgment seems like arguing from individual errors against the universality implied in the logical judgment. On this head it is difficult to avoid accusing M. Basch of inadequate philosophical acumen.

The two remaining chapters deal with the nature of fine art, the classification of the arts, and the modifications of the beautiful.

It is surprising to find that M. Basch adheres to the opinion, apparently expressed by Cohen, with whose work I am not acquainted, that Kant's theory of Art is not a part of his theory of Beauty. Can the critics who judge in this way have really considered the profoundly suggestive section of the *Kritik d. Urtheils-*

kraft, "Schöne Kunst ist die Kunst, so ferne sie zugleich Natur zu seyn scheint"? It was from the connexion of Nature and Fine Art, explained in this section, and subsequently carried out in the conception of artistic genius, that the deepest thoughts of Schiller, Schelling, and Hegel, in this province of philosophy, were to spring. It is strange that M. Basch, on the same page on which he asks with *a priori* rhetoric whether it is likely that the orderly sage of Königsberg should have genuinely understood the tempestuous mind of the artist, displays his inability to enter into Kant's profound appreciation of the magical unity with nature, the gift which is the artist's truest self and yet is something greater than he, which is therefore called his "genius," or familiar spirit. Here is no question of misplaced modesty, as the critic imagines, no idle speculation as to whether Newton or Homer stands higher in the ranks of the immortals, but a psychological observation of great acuteness on the difference between the methodical march of the disciplined intelligence in science, and the unconscious or natural creativeness—the "legality without law"—which belongs to the poetic imagination.

The writer's own theory of fine art is founded on his conception of æsthetic feeling as sympathetic, together with the psychology of emotion as demanding expression, and with M. Tarde's account of the laws of imitation. He concludes, then, that art is the idealising imitation of reality, or of nature. Like too many modern writers, he is unacquainted with the true nature of Aristotle's views on imitation; and largely for this reason he devotes no study to the all-important question "*of what* is fine art an imitation or representation?" The weak compromise which treats it as the idealising imitation of given actuality comes therefore naturally to his assistance. We are not surprised to find that the classification of the arts is founded for him not on the expressive capacity of media with reference to the content of life, but on the current psychological division of the types of sensuous imagination into visual, audile, and motile.

As regards the modifications of æsthetic feeling, the author, following Kant, touches on the sublime and the comic. In the theory of the sublime he principally objects to Kant's introduction of the idea of the infinite and the sort of opposition which his theory presupposes between nature and the mind. The author insists rather on the aspect of identification; we appropriate, rather than rise superior to, the forces of nature or of the human will at its highest, and become conscious in them of something kindred to ourselves. The "act of identification" is the root of sublimity as of beauty. Is not this Kant's view, with the terms a little dislocated? It is not our ordinary self that we assert in the feeling of sublimity; so much is admitted; and again, the mere sensuous appearance of nature is not that with which we identify ourselves; it is something which we grasp in and by reason of the natural appearance or human phenomenon before us, and which

takes us out of ourselves and into the inmost heart of reality. This seems to be what both Kant and his critic essentially mean. In the case of the comic, M. Basch appreciates the value of Kant's principle of contrast, and only suggests that it is really a mistake to look for a single principle in all possible kinds of the laughable. Now of course discrimination is a necessary part of science; but to suggest without motive, and *a priori*, a probable difference of causes for an effect which, as stated, is the same, seems hardly a scientific attitude. It is time enough to distinguish causes when a motived discrimination of sequences suggests itself.

On one important matter of principle the author, who is throughout well aware of the contradictions in Kant's point of view, seems to espouse the weaker side. He knows that Kant's view of the subjectivity of beauty really tends to make way for a conception of it as practically objective. But following the empirical bent, which causes him at all points to deny the more rational characters of the æsthetic attitude, though he has an instrument in his view of symbolic sympathy which is capable of opening to him the very arcana of idealism, he decides for the purely subjective character of the beautiful. There is a demand of reason, he allows, for objectivity—conceived by the author, infelicitously, as an objectivity of causes in contrast with impressions—but it is a demand which cannot be satisfied. He sides, indeed, strangely enough, with the ultra-Kantian attitude which acquiesces in the "ought" instead of endeavouring to indicate the steps of realisation.

Thus, throughout this elaborate and suggestive criticism of Kant, the philosophical student is assailed by a certain impatience. Kant, he feels, was attempting to describe and explain the peculiar features of a certain experience. It is known, to begin with, that he described them by means of paradoxes and apparent contradictions, and that his explanation became deeper, and more imbued with content and import, as his work progressed. In view of a writing whose essential character is of this kind, the critic ought not to proceed like a man who is carping at the statement of a riddle without knowing the answer. Of course, if the statement is really self-contradictory, the answer cannot be justifiable. But it is hard to be sure of this till you have seen the answer; and when it is laid before you, to continue demolishing the statement seems a fault of method. M. Basch makes great use of the "Either—or". But the heart and point of Kant's conception is that to the unique experience known as the æsthetic feeling or judgment, these particular "Either—or's" do not apply. And we can hardly feel, after going through the huge volume before us, that this simple question has really been faced. "Is there a kind of experience which forms the meeting-point of reason and feeling? and if there is, supposing Kant's description to be ill-phrased or ill-connected, how should it be rectified?" Hegel's treatment of Kant's position in the Introduction to the lectures on Æsthetic may be too easy-going, as M. Basch's

may be too contentious. But one would like to see the relation between them thoroughly dealt with. Admitting the general criticism of Kant's "turning movement" as common ground and as fairly stated by M. Basch, for the rest, I think, we must reverse in this case the usual verdict on a work both critical and constructive. The criticism, in this case, does not seem helpful, because the author has not apprehended the nature of the experience which Kant was trying to express; not, at least, through the forms by which Kant tried to express it. But the constructive work seems valuable, and indeed seems to furnish the true criticism, for here the author is endeavouring to re-express, from his own standpoint and in modes natural to him, the thoughts which he has not greatly assisted us in recognising within Kant's curious formulæ. But at least it is a fine thing to have devoted a great study to a great work; and students will find more suggestion in M. Basch's volume than there has been space to indicate.

B. Bosanquet.

The State and the Individual. An Introduction to Political Science with special reference to Socialistic and Individualistic Theories. By William Sharp M'Kechnie, Lecturer on Constitutional Law and History in the University of Glasgow. Glasgow: James MacLehose & Sons, 1896. Pp. 451.

It is a noteworthy fact that during the last two decades or so the attention of students of political science has been more and more concentrated on the work or functions of the state. From the time of the French Revolution till about the third quarter of the present century the bulk of speculative political thinking was concerned not so much with the functions as with the structure of the state. The questions uppermost in the minds of political thinkers were in the main questions of a constitutional character: questions relating to the various organs of government: the manner in which these organs of government should be constituted and the relationship in which they should stand to each other. All this is now changed. Constitutional questions,—questions affecting the structure of the state, have ceased to occupy a foremost place in the minds of political thinkers. A conclusive proof of this is the scantiness of the literature on constitutional subjects in recent years. With the exception of the late Prof. Roscher's *Politik* published in 1892 and Dr. Sidgwick's *Elements of Politics* published the year before (and which I am glad to see has reached a second edition), hardly a single work of first-class importance dealing with the structure of government has issued from the press. It is very significant that in a large dictionary like Conrad's *Handwoerterbuch der Staatswissenschaften* the word State does not even have an article devoted to it. It is true that

this defect has been to some extent remedied in the Supplement; but Prof. Wagner's article on the subject only deals with the state in its economic aspect: it deals with its functions and not with its structure.

What is the reason or rather what are the reasons which have led contemporary political thinkers to change their point of view —to relegate the structure of the state to a secondary position and to devote all their energies to a consideration of its functions? It is probable that one of the reasons the old subjects of political speculation have temporarily lost their interest is to be found in the fact that the ideas of political thinkers on those subjects have in the main become embodied in Western European systems of government. Western Europe as well as the New World is now in possession of a constitutional system of government, with representative chambers and a more or less democratic method of electing parliamentary representatives. In this system we see the fundamental ideas of the vast body of thinkers on constitutional questions brought into practice. The structure of the state is reconstituted more or less in accordance with their ideas. The writer on constitutional politics has got a political structure of the kind he wanted; his subject has accordingly become one of secondary interest, although signs are not wanting that it will again step to the front. Perhaps another cause of the decay of constitutional politics and the rise of social politics is to be in part attributed to the circumstance that the *nouvelles couches sociales* (in Gambetta's phrase) are indifferent to forms of government, and only interested in what government can do, or what they believe it can do on their behalf. In other words this new social stratum (now invested with a preponderating share of political power as far as numbers go) is apparently more anxious to work the machine of state than to alter its structure. It is interested in social politics and not in constitutional politics; it is interested in the functions and not in the structure of the state. This fact imparts supreme practical importance to all discussions dealing with the sphere and limits of state action and state intervention. It may also be remarked that the decay of constitutional politics and the rise of social politics has had a very curious effect on political parties. In the past, political parties have in the main been divided on questions of constitutional politics. These questions have either been settled or have receded into the background. The result is that the old dividing line between parties has been almost obliterated. New dividing lines on questions of social politics have not yet been formed. The old historic parties have no coherent body of socio-political principles. Vague phrases about the amelioration of social conditions are about all they are able to utter. As to the methods by which this amelioration is to be effected and as to the part which the state is to play in the matter there is no widely organised body of opinion.

It is facts of this character which give opportuneness to Mr.

M'Kechnie's book. Mr. M'Kechnie takes up an intermediate position between the individualist and the socialist as to the functions of the state. He does not believe in *laissez faire* and he does not believe in collectivism. As far as regards the functions of the state he describes himself as a believer in "indirect government control" as opposed to direct government management. He believes that the key-stone to a system of practical politics is to be found in a system of indirect government control. He believes that the moderate socialist and the moderate individualist can meet on this platform. The formulation of a system of practical politics based upon the principle of indirect government management is, Mr. M'Kechnie tells us, the only claim to originality which his book possesses. Mr. M'Kechnie develops this principle in a chapter on the methods of state intervention. State intervention takes three forms: state ownership, state administration or regimentation, and legislative control. State ownership is another term for socialism; it involves the abolition of private property and it turns the state into a terrestrial providence. The impracticability of such a sweeping system of state intervention is pointed out by a reproduction of the arguments most commonly used in opposition to socialistic theories. State administration is a more modified form of state intervention. It means an extension of the sphere of bureaucratic interference. In practice it would mean an application of German methods of government. Mr. M'Kechnie discusses the objections to this method of state interference and considers them fatal to it. A third and minor degree of government interference remains open—that is, legislative control. I cannot say that Mr. M'Kechnie clearly distinguishes between the form of interference which he describes as government administration, and legislative control. In fact it is doubtful if the terms he has selected are happily chosen to express his meaning. This meaning as I gather it is that state enactments leaving to the individual the initiative of enforcing them are a better form of state interference than direct enforcement of them by a bureaucracy. State interference based on enactments depending on individual initiative for their force is probably in most instances the least objectionable method of interference. Unfortunately there are a large number of cases in which it cannot be applied. The classes which most need the protection of the state, such as the workman, the woman and the child, are the very classes least able to put enactments into force. Either they do not know of the existence of these enactments or they are too weak and dependent or perhaps too poor to put the law in motion which would protect them.

My own view is that in practice state interference cannot be confined to one method of procedure. Sometimes it must be applied in the form of enactments which leave the initiative to the individual; sometimes it must be applied in a form which places the initiative in the hands of a bureaucracy; and sometimes

in a form which transfers private ownership into public ownership. When a conclusive case has been made out for state interference the form which that interference shall assume must depend upon circumstances. But it may be laid down as a principle that the least aggressive form of interference should always be adopted provided it will fulfil the purposes in view.

Before concluding this notice of Mr. M'Kechnie's able and interesting book I will venture to remark that he would have improved it in several particulars if he had stuck more closely to inductive methods. He tells us, for example, that free education stimulates over-population. This statement is based on the ground that free education diminishes parental responsibility. If Mr. M'Kechnie had referred to facts instead of remaining in the region of high ethical considerations he would have found that the birth rate has not increased as a result of free education. In France primary education is everywhere gratuitous. But the adoption of this system has had no effect whatever in increasing the birth rate of the French population. In fact since the adoption of free education in France the birth rate has on the whole steadily tended to decline. If we examine the birth rate in England it will also be found that the adoption of free education has had no effect whatever in increasing the annual ratio of births. On the contrary it is at present the lowest on record. The birth rate depends chiefly on the standard of life. Where the standard of life is low as in Russia the birth rate is high: where the standard of life is high as in Western Europe and the Eastern States of America the birth rate is low. In so far as free education has the effect of raising the standard of life among sections of the population which have the highest birth rate, it has the effect of diminishing the danger of over-population instead of increasing it. I am not concerned to say whether free education is a good thing or a bad thing. All I am anxious to point out is that it cannot be proved to be a bad thing by assuming on *a priori* grounds that it must inevitably tend to a reckless increase of the population. In more than one passage in his book Mr. M'Kechnie is at pains to dissociate himself from the utilitarian school of political thinkers. This school may have its defects. But at any rate it has the supreme merit of exhibiting a profound respect for facts. In investigating social phenomena, we constantly find that facts confound the most plausible presumptions. These presumptions should be resorted to as sparingly as possible in all discussions relating to political affairs, and not at all when facts are available.

W. D. Morrison.

VIII.—NEW BOOKS.

Roger Bacon. The *Opus Majus* of Roger Bacon, edited with Introduction and Analytical Table by JOHN HENRY BRIDGES, in two volumes. Oxford: Clarendon Press. Pp. clxxxvii., 404, 568. With the editor's fly-leaf referring to the interesting document discovered in the Vatican Library by Dr. Gasquet and published by him in the *English Historical Review*, July, 1897, pp. 494-517.

THE earlier edition of the *Opus Majus*, by Jebb, left much to be desired as respects perfect intelligence of the text, and by its omission of the highly important Seventh Part, on Moral Philosophy, rendered obscure the general plan of the whole work. Dr. Bridges now offers a revision of the text of such part as Jebb had published, and prints for the first time what so far has been discovered of the closing section of the work. He has also excluded from the body of the *Opus Majus* the important tractate *De Multiplicatione Specierum*, though giving it a place in his volumes (ii., pp. 465-552). By shoulder-headings to the several paragraphs and by a most careful and laborious analytical summary (vol. i., pp. xciii.-clxxxvii.) the editor has also facilitated the study of Bacon's voluminous work and made it more possible than before to gain a connected idea of its leading ideas, plan and development. The editor's Preface and Introduction give some account of the MS. sources utilised for the work and a general statement of the place and significance of the *Opus Majus* in the history of human thought.

The text here offered, if judged from the point of view of the reader who desires and expects to be able to understand its several sentences, is a distinct improvement on that of Jebb, which contained an undue number of what Bacon called 'horrible difficulties' in the case of translations from Aristotle. Yet from the same point of view the present text is still open to adverse criticism, and still offers to the reader perplexities which he has no means of resolving. It is possible that some of these may be inherent in the MSS.; for there is no reason to suppose that the transcribers of Bacon's writings were immaculate; it is probable that some of them might yield to careful collation of the existing MSS., and to comparison of those of the *Opus Majus* with other writings of Bacon; it is certain that some of them might have been avoided by keeping constantly in view what is already extant, in printed form, of Bacon's writings. The editor has not, we are inclined to think, carried out a sufficiently continuous comparison of his text with the *Opera Inedita* published by Brewer in 1859, and with the abundant excerpts from other MS. writings contained in Charles' monograph of 1862, a work to which the editor pays a just tribute of admiration. *E.g.* a comparison of *Op. In.*, p. 447, with what he has printed at the foot of i., p. 86, would have cleared up what is there incomprehensible; a similar comparison with *Op. In.*, 310, 396, 48, and Charles, 365 (see also *His. Rev.*, as above, p.

509), would have enabled him to avoid a serious confusion in the words 'metaphysica' and 'mathematicis'. On the whole, indeed, judging from merely internal grounds, one would doubt whether a completely satisfactory and final text of the *Opus Majus* has yet been supplied.

Roger Bacon was evidently an omnivorous student; he pours forth a very flood of references and quotations. As the *Opus Majus* was written with extraordinary speed, and as it is probable that the writer had not always at hand the books he refers to, or quotes from, a heavy burden is imposed upon his editor. The notes of Dr. Bridges are certainly helpful, though they have not altogether escaped the inaccuracy incident to such work, but they are far from being sufficiently numerous. Moreover, the Index, a most important factor in a work where reference plays so large a part, is quite inadequate, and a grumble may be permitted in respect to a portion of an editor's task which, however valuable, is well-nigh mechanical.

The editor's Introduction (pp. xxi.-xxxvi.) gives a brief account of the little that is known regarding Bacon's life, the circumstances which called forth his main writings, and the other works by which these were followed. In respect to the life there is probably not much more now to be known. Dr. Gasquet's 'find' supplies a few additional details as to the composition of the three writings called the *Opus Majus*, *Opus Minus*, and *Opus Tertium*, and further contains a passage of some interest in the discussion of Bacon's literary activity as a whole. Bacon tells us there that prior to entering the order he had written *propter juvenum rudimenta* a good deal which he was supposed only to have done later, that at no time had he published a completed treatise on any part of philosophy, and that during a retirement of about ten years from the more public work of teaching (for so one would interpret his phrase) he had only written a few chapters now on this, now on that science, at the instance of friends. Such writings, moreover, he did not then possess, for he did not regard them as satisfactory treatments of their subjects, and had not cared to preserve them. It would thus seem from his own accounts that all the most systematic writings of which we now possess information dated from the period of the Papal request in 1266. But as to the relation of these writings to one another, there is yet the greatest obscurity. The cross references in what we possess are as baffling as in the case of the *Corpus Aristotelicum*, and so long as the larger MSS. at all events remain unprinted, it is not likely that the many points of difficulty suggested will be settled. That the *Opus Majus* was destined for Clement we know; whether and how it was sent we do not know; and the like obscurity rests upon the history of the two connected writings, the *Opus Minus* and *Opus Tertium* as they have been called. The last of these makes such detailed, copious and minute reference to the *Opus Majus* that its relation to it is in one sense clear enough. [From the want here of any detailed reference to the parts 5 and 6 of the Moral Philosophy, and from the expressions used on p. 305 *Op. In.* (*cf.* p. 52), it might be suspected that Bacon did not finish the seventh part of the *Opus Majus*.] But it is altogether indeterminable to what extent the *Opus Tertium* has been worked over, and how far therefore our text corresponds to the original;[1] and doubtful also, as in the case of the *Opus Majus*, whether or how it was sent to Clement. As to the confusion regarding the *Opus Minus*, the general plan of which is clear enough from the *Op. Tert.*, it is only increased by Dr. Gasquet's find,

[1] *Cf.*, *e.g.*, *Op. In.*, 135, 304, where the confusion of nomenclature as to *Secundum* and *Tertium* is doubly confounded.

for certainly it is hard not to recognise in the first pages of that fragment the exordium to the *Opus Minus* recited in the *Opus Tert.* [It is noteworthy that in this fragment there are referred to only five parts of the Moral Philosophy.]

The *Opus Majus* taken alone can give but an imperfect idea of Roger Bacon's position in the intellectual life of his time. Perhaps in the future some editor may be found for the still unprinted MSS., from which a comprehensive idea could be formed of the way in which he proposed to utilise for his purpose the instruments of scholastic thinking available for him. For with these Bacon had to work, and in default of recognition of their nature, an impression may be formed that is all too modern of his aims and ideas. Dr. Bridges has rightly seen the necessity of bringing Bacon's work into relation with its actual surroundings, the scholastic discussions of his time, but he can hardly be said to have advanced our knowledge beyond the point reached through the able and laborious monograph of Charles. On the scholastic material he expresses himself not incorrectly, but with the hesitation and limitation that betoken want of complete familiarity. Nor does his Introduction throw much light on the puzzling question of the relation between the three *Opera* so far published and the portions of the unfinished writing of which the *Communia Naturalium* seems to be the most important. On what he bases his remark (ii., p. 408 n.) "that among the copious extracts given by E. Charles from the MSS. in the Mazarine Library containing the *Communia Naturalium* of Bacon, are certain passages implying that this work was begun before 1267" is not clear to me, while on the other hand Werner in his *Psychologie, etc., des R. Bacon* (p. 18) quotes from the said *Com. Nat.* the sentence 'Partes vero sensitivæ virtutis ego posui cum omni diligentia in primo perspectivæ,' which seems to imply that the writing is later that the *Opus Majus.*

The inclusion of the Moral Philosophy has given the editor the means of defining more clearly than was before possible the general aim and leading conceptions of the *Opus Majus*, and with regard to these his view is sound and well expressed. Perhaps he might with advantage have laid stress on a point rightly adverted to by him, that the superiority of Bacon's ideas on scientific method was due mainly to his familiarity with the really progressive science of optics or of applied mathematics in which the Arab tradition worthily continued one of the fruitful lines of Post-Aristotelian work. He needlessly, in my opinion, repeats the quite groundless fable of proficiency in natural science on the part of Albertus Magnus, and I think greatly exaggerates the value of Aquinas' treatment of the concrete detail of ethics and politics. But on these points and on the general determination of Bacon's place in the history of mediæval thought, a brief notice cannot enter.

R. ADAMSON.

The Herbartian Psychology applied to Education. Being a series of Essays applying the Psychology of Johann Friedrich Herbart. By JOHN ADAMS, M.A., B.Sc., Fellow of the College of Preceptors, President of the Educational Institute of Scotland, 1896-7, Rector of the Free Church Training College, Aberdeen. London: Isbister & Company, 1897. Pp. iv., 284.

This little book must not be confused with the many attempts which have been made of late merely to re-expound the doctrine of Herbart for teachers. On the contrary, it is a fresh, stimulating, and independent essay on the educational value of the doctrine of apperception,

and on the whole, there is more of Mr. Adams in it than of Herbart. The only direct exposition of Herbart's peculiar views, as distinguished from those results of his work which have become permanent possessions of psychology, is contained in chap. iii., pp. 44-66. This is as well done as the conditions of such a book allow. We think, however, that Mr. Adams ought to have given some distinct indication at this point that he does not himself accept or desire his readers to accept Herbart's ontological assumptions. Chap. iv., on "The Theory of Initial Equality," strikes us as the weakest in the book. Mr. Adams affirms that there is one sense in which all minds may be regarded as equal. When precisely the same data are presented to them, they will arrive at the same conclusion. This, no doubt, is a tenable position, if we are careful to insert the requisite restrictions and conditions. But then it amounts to no more than saying that precisely the same causes will have precisely the same effects. The real question is, whether minds are so alike that precisely the same conditions can be made operative in precisely the same ways in all of them. This is possible, says Mr. Adams, if precisely the same data are laid before them, and if they confine their attention to these data, and these only. But *can* the same data be laid before them? Supposing that the data are given in succession. Each mind, we may suppose, apprehends each separate datum in virtually the same way. There still appears to be a very great difference in the power of combining these data, in the degree in which each separate datum is apprehended in relation to the whole, so as to derive significance from it. A boy may understand each separate sentence in a proposition of Euclid, without being able in the least to catch the essential drift of the proof. For this reason we regard Mr. Adams' distinction between thinking and judging as arbitrary. Chap. v., on "Formal Education," disputes the view that the matter of a study is indifferent, if it only cultivates the intellect. Fagin's school in Dickens' novel, it is argued, is to be condemned not because it fails to develop intelligence, but because it develops it in a wrong direction. "We cancel Fagin's certificate not because he is a bad teacher, but because he teaches bad things" (p. 134). It seems to us that Mr. Adams fails to take sufficient account of the fact that some studies have a far more wide and general effect on the intellect than others. But this is no doubt a matter of content as well as form. Chap. vi. argues against the supposition that it is a legitimate or useful educational endeavour to cultivate the habit of observation in the abstract, apart from the cultivation of special interests and aptitudes. In chap. vii., on "The Logical Concept and the Psychological," there are some excellent remarks on the abuse of dictionaries and vocabularies, founded on the distinction between the dictionary definition and the fluctuating meaning which a word acquires in varying contexts and circumstances. The author gives an amusing account of how he himself when a boy attempted to read a dictionary through, in order to save trouble for the future. Oddly enough, the present writer distinctly remembers doing the same thing. Chap. viii. treats of school jokes. The nature of a joke is admirably explained from the point of view of the doctrine of apperception. Due distinction is made between the schoolmaster's jokes, the pupils' "howlers," and those childish answers which are correct enough, but comically incongruous with the gist of the question. The value of the joke and the riddle as instruments of education is insisted on in an instructive way. Chap. ix., on "Graphic Hypotheses," contains among other good things a most interesting account of a prize competition in which the competitors were required to send in maps of Crusoe's island. The final

chapter, on "The Doctrine of Interest," winds up with the conclusion that "interests must be tested by their effect on the child's development, viewed in connexion with its place in the organic unity of the world in which it has to live" (p. 279).

EDITOR (G. F. S.).

Ethics: an Investigation of the Facts and Laws of the Moral Life. By WILHELM WUNDT. Translated from the second German edition (1892) by EDWARD BRADFORD TITCHENER, JULIA HENRIETTA GULLIVER and MARGARET FLOY WASHBURN. Vol. i.: "The Facts of the Moral Life". Translated by JULIA GULLIVER and EDWARD BRADFORD TITCHENER. London: Swan Sonnenschein & Co., Lim.; New York: The Macmillan Company, 1897. Pp. xii., 339.

The first instalment of the promised translation of Wundt's *Ethik* will be welcomed by all English-speaking students of ethics. Of the importance of the work itself it is unnecessary to say anything here; attention was called to it on its first appearance (MIND, O.S., No. 46, vol. xii., p. 285 ff.). The importance of the translation lies in the extreme difficulty of Wundt's German style, especially in this first part of the treatise. The translators are to be congratulated on their complete success in rendering this part into smooth and readable English without any unfaithfulness to the literal meaning of the original. The convenience of the reader is further consulted by the preservation of the German pagination throughout, and by the addition of an excellent index.

Wundt's work consists, it will be remembered, of three parts, i., "The Facts of the Moral Life"; ii., "Ethical Systems"; iii., "The Principles of Morality, and the Sphere of Their Validity," containing the author's own ethical system. To each of these parts the translators have assigned a separate volume. In this volume the inductive basis is laid in a careful and well-informed, yet original, account of the facts of the moral life. The necessity of such an inductive basis is clearly pointed out by the author in his preface. "There has been no lack either of speculative or of psychological essays in the moral sphere, and I am more than ready to give both their due. But I think that we must look to ethics to supply the corner-stone of metaphysics, of our final and comprehensive view of the universe; and so it seems to me inadvisable to reverse the relation of the two disciplines and base moral philosophy upon metaphysics. As to psychology, I have personally found it to be so necessary a propædeutic and so indispensable an aid to ethical investigations that I do not understand how any one can do without it. But the psychology of the moralists belongs for the most part to the days of the older empiricism. It is, to my thinking, altogether too individualistic in its point of view; besides which it has not advanced beyond that stage of popular thought at which subjective interpretations of facts are naïvely intermingled with the facts themselves. The straight road to ethics lies, I believe, through *ethnic* psychology, whose especial business it is to consider the history of custom and of ethical ideas from the psychological standpoint." It is in the adoption of this new method in ethics that the chief interest of Wundt's work consists. The two chief hypotheses which he seeks to verify by a study of the facts of morality are, first, that the result or end attained by human activity is not to be confused with the motive or impulse which prompted it, the final with the efficient cause: and, secondly, that the most universal and influential motive, the great efficient cause of moral progress, has been religion. "Fulfilment of purpose, however complete, does not ensure the identity

of purpose and motive. And the history of custom forms one of the most remarkable illustrations of an original incongruity between the two. History shows that almost all, and especially all the more significant forms of life, have their root in *religious* motives that have disappeared from the consciousness of a later age" (p. 134). The skill and insight with which the facts are marshalled makes these hypotheses well-nigh irresistible, and imparts a certain artistic as well as a high scientific value to the presentation of the facts themselves.

JAMES SETH.

Appearance and Reality. A Metaphysical Essay. By F. H. BRADLEY, LL.D. Glasgow, Fellow of Merton College, Oxford. Second Edition (Revised), with an Appendix. London: Swan Sonnenschein & Co., Limited; New York: The Macmillan Company, 1897. Pp. xxiv., 621.

The first edition of this book was reviewed in MIND., N.S., 9 (Jan., 1894). The main feature of this second edition is an appendix of sixty-nine pages, containing: (1) An outline sketch of the general purport of the book; (2) Long notes on Contradiction and the Contrary, on Relation and Quality, and on Identity; together with shorter explanatory notes referring to particular passages of the original work, consisting mainly of replies to criticisms. The general sketch is useful as giving a bird's-eye view of the author's argument. The note on Contradiction and the Contrary is of special importance, as it contains by far the most clear and convincing exposition which Mr. Bradley has yet given of the critical method and general point of view from which he approaches ultimate philosophical problems. No one ought to write an adverse criticism of Mr. Bradley without first carefully studying this note, which first appeared as a paper in MIND, N.S., 20. The second note discusses the question whether terms are necessarily altered by the relations into which they enter. Mr. Bradley, of course, replies in the affirmative. The third note argues that all identity is fundamentally one. It consists always in identity of content and character. "There is no sameness of mere existence, for mere existence is a vicious abstraction" (p. 587). There are many interesting references to Mr. Hobhouse's book on *The Theory of Knowledge* in this discussion. Among the minor notes there is one referring to my own criticism of Mr. Bradley's view of activity as given in his book, pp. 96-100. I now admit that my strictures were largely based on misapprehension. My mind was filled at the time with a distinction between the acquired meaning of a sensation, and the revival of the mental image of what it means. Only to the revived image would I give the title of idea. Where it is absent I should speak of perceptual rather than of ideal consciousness. I now gather that Mr. Bradley would call the acquired meaning, even apart from anything in the way of revived imagery, an idea. The point of my special criticism of the conception of implicit ideas is thus lost; but I am still as strongly of opinion as ever that the distinction which I was making is of the most vital importance for psychological purposes, and I think also for metaphysical.

EDITOR (G. F. S.).

The Law of Nature and Nations in Scotland. By WILLIAM GALBRAITH MILLER. Edinburgh: William Green & Sons, 1896. Pp. 141.

This little volume consists of a series of lectures delivered in the University of Glasgow in the years 1895-6. It is intended to constitute an introduction

to the Philosophy of Law and to International Law. Mr. Miller in his preface complains of the scant recognition which is accorded to legal studies in the Scotch Universities. It appears that there are "only eight endowed chairs of law in all the four universities, and even of these five have been devoted or diverted to the teaching of merely professional subjects: while for the teaching of Presbyterian theology there are at least eight fairly endowed and fairly equipped Faculties or Colleges, besides the colleges of other religious denominations and four richly endowed Gifford Lectures as an antidote". These facts, as Mr. Miller truly remarks, throw a curious light on the state of the higher learning in Scotland. It is a misfortune that the Scotch Universities are so badly equipped for dealing with such a subject as the principles of jurisprudence. It is a subject which is peculiarly suitable to the Scotch mind inasmuch as it is at once abstract and practical. In the United States it is not unusual for a millionaire to step forward and settle difficulties of this kind. We hope that Mr. Miller's exhibition of the barrenness of the land may induce some wealthy Scotchman to wipe out a national disgrace. Of Mr. Miller's lectures it is unnecessary for us to say much. They are what they profess to be, an introduction to his subject. The meaning and scope of jurisprudence in general and of International law are discussed. The interpretations which have been put upon these terms by English, Scotch and continental writers are critically examined. At times Mr. Miller's statements do not possess the precision which is so desirable in an introductory work. But on the whole these lectures are a useful introduction from a Scotch standpoint to the science of jurisprudence.

Bases of Religious Belief, Historic and Ideal. An Outline of Religious Study. By C. M. Tyler. New York and London: G. P. Putnam's Sons, 1897. Pp. x., 273.

Professor Tyler stands for a rationalised or liberal orthodoxy, and his general teaching bears a close resemblance to that of Prof. Pfleiderer. "Both conscience and philosophy," he writes in his preface, "accept the divine law of development. . . . That God can be known in his transcendence is the view of a 'romantic' metaphysic. That he can be known only in his relation to us and to the world, as immanent in both, is the teaching of an inductive metaphysic. . . . The facts of man's religious history, and the moral and religious ideals which are the forces of all progress, demand and find their meaning in the perfect Goodness, who is the Supreme Cause and End." And, in the Conclusion: "As history is itself a divine process, a perpetual miracle, Religion does not stand or fall with miracles of any time or place".

The book aims "to give simply a *résumé* of the conclusions of modern thought". Part i., on the historic basis of religious belief, is in truth little more than a summary of the views of accepted authorities. It contains four chapters: on the definition of religion, on prehistoric and historic data and their bearing upon the study of religion, on the question whether the beginning of human history was a moral catastrophe, and on the psychological genesis of religion. In part ii., on the ideal bases of religious belief, the author writes more freely, and while still following a beaten path gives some play to his own individuality. The chapters of this part deal with the metaphysical, ethical and æsthetic grounds of belief, with spiritual love as realisable ideal, and with the revelation of God in human progress.

The work is meant for use as a text-book. In conformity with this purpose, we find a running marginal analysis, a series of notes appended to each chapter, and a good analytical index. It will be worth while, in a future edition, to make the literary references more detailed and exact.

Origin and Nature of Conscience. By P. G. KNOWLTON. Oberlin O. 1897. Pp. 150.

The aim of this essay—a thesis written for the Leipzig doctorate under Heinze's direction—is threefold: to set forth the leading principles of the 'empirical-evolution' theory of the origin of conscience; to give a critical estimate of the philosophical adequacy and ethical import of that theory; and to reach constructive conclusions respecting the origin and nature of conscience.

Part i. considers the views of Darwin, of Spencer and Rée, of Bain, J. S. Mill and Grote, and of Stephen and von Ihering. The statement of opinion is fair, but far too brief to be adequate. Part ii.—general criticism—is one-sided, and its psychological chapter weak. In part iii., which accepts and develops a nativistic account of conscience, the author is at his best. The whole thesis is a competent piece of work; but is too ambitiously planned, and (like so much of ethical controversial writing) never gets to close quarters with the doctrine it is opposing.

Christianity and Idealism. The Christian Ideal of Life in its Relations to the Greek and Jewish Ideals and to Modern Philosophy. By J. WATSON. Second Edition. London and New York: Macmillan & Co., 1897. Pp. xxxviii., 292.

This second edition of *Christianity and Idealism* is considerably larger than the first (MIND, N.S., vol. vi., p. 424). It is introduced by an additional preface of twenty pages; and part ii. (Modern Idealism and Christianity) has received three new chapters and a new section. The chapters are entitled: 'The Failure of Materialism,' 'The Idealistic Interpretation of Natural Evolution,' and 'Idealism and Human Progress'. The new section (pp. 268-280) meets an objection to the author's view of the absolute—the objection that the world may yet have stages to go through whose nature we cannot at all foresee.

What should be the most interesting of the three added chapters—the second on the list—proves to be the most disappointing. The author has written too briefly, and too dogmatically. One cannot say off-hand that chemical energy is different in kind from physical; or that the energy of life is different in kind from physical and mechanical energy. Neither can one ignore the recent discussions of the discontinuity of the evolutionary process. Prof. Watson is guilty on the score both of commission and of omission.

Practical Handbook of the Diseases of the Eye. By D. C. WATSON. Edinburgh: W. F. Clay; New York: The Macmillan Co., 1897. Pp. xii., 236.

Although primarily intended for the use of medical students, this little book contains much that is valuable for the laboratory psychologist. The principle of Snellen's test types, the mechanism of accommodation, presbyopia, myopia and hypermetropia, the numbering of lenses and retinoscopy, astigmatism and strabism, diplopia and muscular paralysis

—all these things are explained accurately and succinctly, and all must be referred to in any drill-course of psychological optics. The author is sound upon the question of colour-blindness: "red blindness and green blindness always go together": though in deference to current opinion he has to give the Young-Helmholtz tests.

Introduction to Philosophy. A Handbook for students of Psychology, Logic, Ethics, Æsthetics, and General Philosophy. By OSWALD KÜLPE, Professor of Philosophy and Æsthetics in the University of Würzburg. Translated from the German (1895) by W. B. PILLSBURY, Instructor in Psychology in the Cornell University, and E. B. TITCHENER, Sage Professor of Psychology in the Cornell University. London: Swan Sonnenschein & Co., Limited; New York: The Macmillan Co., 1897. Pp. x., 256.

This book was reviewed in its German form in MIND, N.S., vol. iv., No. 16. Emphasis was there laid on the suitability of the work as a text-book for a course of lectures on the general problems of philosophy. We have only to add here that the present translation is excellent. Additions have been made to the list of literary references both by Prof. Külpe and the translators, but the omissions noted in our review still remain, except in the case of Sidgwick's *History of Ethics.*

The Philebus of Plato. Edited with Introduction, Notes and Appendices, by ROBERT GREGG BURY, M.A., formerly Scholar of Trinity College, Cambridge, and late Bishop Berkeley Fellow of the Owens College, Manchester. Cambridge: at the University Press, 1897. Pp. lxxxvii., 224.

The *Philebus* occupies a most important place among the dialogues which are becoming generally recognised as expressing the latest developments of Plato's philosophy. Mr. Bury in this edition shows himself fully alive to its philosophical significance, and he gives much solid and useful help to those who wish to study it from a philosophical as well as a philological point of view. The Introduction gives a general analysis of the dialogue, and then proceeds to discuss the epistemology, ontology, and ethics of the *Philebus.* Finally, it treats of the vexed question of the relation of the idea to the ultimate constituents of being, *πέρας* and *ἄπειρον*, their product, *τὸ μικτόν*, and the cause of mixture, *αἰτία.* Mr. Bury rejects Jackson's theory, and himself refuses to identify the idea directly with any of the four classes.

The Works of George Berkeley, D.D., Bishop of Cloyne. Edited by GEORGE SAMPSON, with a Biographical Introduction by the Rt. Hon. A. J. BALFOUR, M.P. Vol. i. London: George Bell & Sons, 1897. Pp. lxi., 397.

This edition is much cheaper and handier than Fraser's elaborate work. It contains no commentary or discussion: but this omission can hardly be regarded as a drawback. Nobody can expound Berkeley nearly so well as Berkeley has expounded himself. Learned discussion of his place in the history of philosophy would be inappropriate in an edition meant for general readers, as this is. It is needless to say that the biographical sketch by Mr. Balfour is well written and interesting.

A Manual of Ethics. By JOHN S. MACKENZIE, M.A., Professor of Logic and Philosophy in the University College of South Wales and Monmouthshire, formerly Fellow of Trinity College, Cambridge. Third Edition, revised, enlarged, and in part re-written. London: W. B. Clive, University Correspondence College Press, 1897. Pp. xix., 456.

This book is generally recognised as the best manual of Ethics in English. The third edition is thoroughly revised, and contains 100 additional pages. Criticisms have been carefully considered. A chapter is added at the end of book ii. on the relation of ethical theory to practice. But the most important feature of the new edition is the introduction of much matter bearing on the evolution of the moral life from the sociological point of view. This is certainly a great improvement, and will serve to make the book even more interesting to beginners than it was before.

Greek Folk Poesy. Annotated Translations from the whole cycle of Romaic Folk Verse and Folk Prose. By LUCY M. J. GARNETT. Edited with Essays on the Science of Folklore, Greek Folkspeech, and the Survival of Paganism, by J. S. STUART-GLENNIE, M.A. London: David Nutt, 1896. 2 vols. Pp. xlv., 477; viii., 541.

Mr. Stuart-Glennie values these folk tales mainly as a corroboration of his doctrine that the primitive conception of nature is that of a "solidarity of mutually influencing powers" (vol. ii., p. 489), sentient and in sympathetic communion. On this basis he argues against the theory that the conception of Spirits, as expounded by Mr. Tylor and others, is a characteristic feature of primitive thought. His own positive contention is more convincing than his polemic. He also takes occasion to advocate the doctrine that the origin and development of civilisation depends upon the conflict of distinct races. In the general doctrine he is no doubt largely right, though some of his special applications may be doubtful. On the whole Mr. Stuart-Glennie's Essays deserve attention from those interested in the psychology of primitive peoples.

An Introduction to Human Physiology. By AUGUSTUS D. WALLER, M.D., F.R.S., Lecturer on Physiology at St. Mary's Hospital Medical School, London. Third Edition. London: Longmans, Green & Co., 1896. Pp. xvi., 640.

In noticing this last edition of a well-known book, it is unnecessary to comment on its general merits. It is, however, worth while to draw attention to its special adaptation to those students who have to read physiology for psychological purposes. Dr. Waller is himself intensely interested in psychological questions, and his account of the sense organs and of the nervous system gives, in a clear, concise, and vigorous way, just the kind of treatment which a student of psychology requires.

Philosophical Lectures and Remains of Richard Lewis Nettleship. Edited with a Biographical Sketch by A. C. BRADLEY, Professor of English Literature in the University of Glasgow, formerly Fellow and Lecturer of Balliol College, Oxford, and G. R. BENSON, of Balliol College. Oxford: Macmillan, 1897. 2 vols. Pp. lvi., 394; vi., 364.

The first of these volumes contains Prof. Bradley's biographical sketch (about fifty pages), followed by 100 pages of selections from Nettleship's

letters and miscellaneous papers, a course of Logic Lectures reproduced from lecture notes taken by pupils, and a chapter on Plato's conception of goodness and the good which was all that Nettleship completed of a proposed work on Plato. The second volume consists of Lectures on Plato's *Republic*, reproduced from lecture notes.

Nettleship's very remarkable individuality is represented in these volumes with striking success. Especially Prof. Bradley's memoir, and the extracts from Nettleship's letters and papers will be delightful to those who knew him, and full of suggestion for those who did not. Critical notice will follow.

L'Année Philosophique. Paris, 1897. Pp. 1-316.

The first article is from the pen of **M. Renouvier,** and deals with Kant's Categories. Kant is in error in endeavouring to *deduce* the Categories, and, secondly, his procedure and results rest upon a metaphysic presupposition. The second point is treated of in detail, and M. Renouvier endeavours to show that Kant's refutation of "Metaphysie" contains the germ of theories of the Absolute "more chimerical" than those destroyed by criticism. This contradiction can only be escaped by a reinvestigation of the Categories—M. Renouvier cannot call it a fresh deduction or even criticism—whence it results that the fundamental Category is Relation which is the genus of which the others are the species. When M. Renouvier comes to sum up his results he makes Relation the first Category, thereby apparently co-ordinating it with the rest, and the whole table is divided into four groups of pairs with an odd Category (Space) alone at the end. The following is the list:—Relation, Personality: Quantity, Quality: Becoming, Succession: Causality, End: Space. The next article, by **M. L. Dauriac,** upon the doctrine and method of M. J. Lachelier, is a complement to that of M. Renouvier. The deduction of Categories, which the first endeavours to evade, the second attempts to establish. M. Dauriac takes advantage of the republication of M. Lachelier's works to collect from them the general drift of a philosophical theory, which has been as yet only given to the public in outline. As a result M. Lachelier is to be ranked as a follower of Cousin, but with certain modifications. Like Cousin he is an eclectic, and he therefore takes advantage of much recent thought to find fresh premises for Cousin's conclusions. If Cousin attempted "to demonstrate the Philosophy of Schelling by the method of Condillac," M. Lachelier's contribution might be characterised as an attempt to maintain the Philosophy of Cousin by an adaptation of the method of the post-Kantians, through which run certain threads derived from the "Scottish School" through Cousin. **M. Pillon's** contribution to his 'L'Evolution de L'Idéalisme au xviiie Siècle' deals with Bayle's criticism of Anaxagoras and the Atomists. Bayle, owing to his Cartesian training and sympathies, objected to the teleology derived from the ordering functions of the νοῦς of Anaxagoras. To eliminate the metaphysical need of a Creator or "Divine Architect," he maintained an animated or vitalistic atomism. This theory is brought into contact with the later form advanced by Maupertuis, and more recently by M. Charles Lemaire and Mme Clémence Roger; and is compared historically with St. Augustine's interpretation of Democritus in connexion with certain *vim animalem et spiritualem* as well as the theory of *animantes imagines* which distinguishes early Atomism from the form in which, he says, it was held by Epicurus. "Animated Atomism" is also placed in relation to the *idées-modèles* of Malebranche, to the monads of Leibnitz, to the Worcester-Locke controversy, and finally to Clarke's position on the "Immateriality of the Soul".

La Sociologie. Par AUGUSTE COMTE. Résumé par EMILE RIGOLAGE. Paris: Félix Alcan, 1897. Pp. 470.

In the preface to this volume M. Rigolage informs us that he first began to summarise Comte's *Cours de Philosophie Positive* as far back as the year 1876, and that he published two volumes of this summary in 1881. These volumes are out of print. The first volume he has not republished. He considers that it requires too minute an acquaintance with certain recondite scientific ideas to be of much service to the average reader. On the other hand, he is of opinion that the second volume of his summary may be usefully republished. This he has now done under the title *La Sociologie*. It seems to be a very good *résumé* of Comte's sociological system. The main outlines of Comte's views respecting the need of a social science and the value of attempts previous to his own to establish a science of society are clearly given. The same remark applies to M. Rigolage's summary of Comte's theory of social order and social progress. In fact if any one wishes to form a fairly trustworthy conception of Comte's *System of Positive Polity* and has not time to undertake the laborious task of reading Comte's own works, he will find M. Rigolage a useful guide.

L'Opposition Universelle. Essai d'un Théorie des Contraires. Par G. TARDE. Paris: Félix Alcan, 1897. Pp. 451.

M. Tarde is becoming quite a voluminous writer on philosophical and social subjects. He is undoubtedly a man with a considerable amount of originality, but he unfortunately lacks the French gift of expressing himself with lucidity. Almost all his work is ingenious, but it is not always convincing. He is too fond of paradox and premature generalisation. But he is a suggestive writer, and his works are worth reading, not only on their own account but also as a type of the philosophic mood which at present prevails to a large extent among our neighbours across the Channel. In the present volume, M. Tarde starts from the principle that all our knowledge of things lies in the fact that we perceive resemblances and differences between them. But he is of opinion that our knowledge of things does not end with our perception of similarity and difference. There is a third point which has to be borne in mind, and which we are apt to underestimate and even to forget. This third point is the combination of similarity and difference. When similarity and difference are fused together we have a new relation—a relation which M. Tarde describes as a relation of opposition, inversion, and contrariety. *L'Opposition Universelle* is an exposition of this idea, and is the complement of his former volume on the *Laws of Imitation.*

System der Philosophie. Von WILHELM WUNDT. Zweite umgearbeitete Auflage. Leipzig, 1897; London: Williams & Norgate. Pp. xviii., 689.

On its first appearance this work, as its importance required, was reviewed at length in MIND (vol. xv.). Its importance lay in the fact that it was in a pre-eminent degree representative of the conception of metaphysics, to which the philosophy of the present time, where it does not stop short in a critical theory of knowledge, is pretty definitely tending, and which indeed is likely to be permanent in philosophy: the conception of it as directly based on the special sciences and having for its task the unification and completion of their main results in a single coherent system. In this respect the book, whether or not it is to be regarded as epoch-making, is certainly epoch-marking.

Naturally the changes in the present edition are inconsiderable compared to the total bulk of the work, and do not affect any matters of principle. They are directed, the author explains in the Preface, mainly towards removing misapprehensions of his meaning. Frequently the changes consist of simple omissions, and the motive of these, unless it be merely brevity, is not always quite apparent to the reader. The book is without an Index, and it is therefore an advantage that in some cases the sections are more subdivided than before, and that the titles of all the subdivisions are now printed in the Table of Contents. The more important changes (and especially the main additions) occur, as the author points out, and as might have been anticipated, first, in the division that deals specially with the theory of knowledge (the second), and, next, in the divisions that are concerned with the application of philosophical principles to the leading problems of the physical and mental sciences respectively (the fifth and sixth).

In the division on Knowledge the chief changes are the following. In i., § 2, the author adds a little to his criticism of those who assume an original diversity, instead of an original identity, of 'Vorstellung' and 'Object'. ii., § 6, is slightly altered, perhaps not altogether for the better, in order to introduce a reference to recent epistemological theories. In the last section of this division (§ iv., § 5) there are some changes of nomenclature. The term 'Animismus' is happily discarded for the more appropriate 'Voluntarismus'. The classification of metaphysical Weltanschauungen is simplified and perhaps improved.

In division v., 'Hauptpunkte der Naturphilosophie,' there are three important additions. (1) In section i. a § is added on the 'Beziehungen zwischen Begriff und Anschauung beim Begriff der Materie'. (2) In the last § of the same section six or seven pages are added on the 'naturwissenschaftliche Einwände gegen den Begriff der Materie'. (3) In section ii. the discussion of the 'Princip der Energie' is enlarged and a criticism given of the attempt to set up, on the basis of this principle, 'eine völlig hypothesenfreie Naturlehre'.

In division vi., 'Grundzüge der Philosophie des Geistes,' among various minor changes in the early sections it may be noted that in i., § 1, c (i., § 3, in the previous edition) the perhaps objectionable expression 'relativ unbewusst' as applied to 'geistige Vorgänge' is removed, together with the reference to psycho-physical dispositions, and the exposition now moves consistently in terms of 'Bewusstseinsgrade'. The main additions in this division are two. (1) In section ii. a new § is inserted (between §§ 6 and 7 of the previous edition) containing a brief discussion (the reader is referred to other writings of the author) on the 'Principien der geistigen Causalität,' in which the teleological character already found to pertain to all psychical causality is expressed in three general principles of psychical development. (2) In § 4*a* (§ 7 in the previous edition) of the same section the author, in remarking upon the principle of psycho-physical parallelism, takes occasion to reject the notion of a special psycho-physical causality distinct alike from physical and from psychical causality, on the ground that no independent principles can be made out for such a third kind of causality.

H. Barker.

Kritische Grundlegung der Ethik als positiver Wissenschaft. Von Dr. Med. Wilhelm Stern, pract. Arzt in Berlin. Berlin: Ferd. Dümmlers Verlagsbuchhandlung, 1897. Pp. 471.

Dr. Stern treats ethics apart from religious or metaphysical pre-

suppositions. When religious and metaphysical presuppositions are excluded he appears to be unable to imagine any other mode of dealing with the subject than the evolutional. Such a point of view as is represented by Prof. Sidgwick's *Methods of Ethics* has apparently never dawned upon him as a possibility. There is in his work much criticism of ethical theories. One of his leading tests in judging of the value of a theory is its applicability to animals; but he gives no exact analogy of the facts of animal life showing the presence of truly ethical behaviour. His own view is that the primary root of ethical consciousness is to be found in the battle against the hostile conditions of external nature; the combative attitude towards these conditions becomes generalised, so as to result in a tendency to defend all psychical life with its products and manifestations against threats and encroachments analogous to those of hostile natural forces. The book has evidently cost the author much labour and effort; but the result is disappointing. He seems to be practically unacquainted with English evolutionary ethics, even with the work of Mr. Herbert Spencer. He also unfortunately writes in a style which we had hopes was becoming extinct in Germany. It is a hard task to wade through his cumbrous periods, often as much as half a page in length.

Raumaesthetik und geometrisch-optische Täuschungen. Von THEODOR LIPPS, Professor a. d. Universität München. Mit 183 Figuren und einer Tafel. Schriften der Gesellschaft f. Psychologische Forschung, Heft 9-10 (II. Sammlung). Leipzig: Verlag von Johann Ambrosius Barth, 1897. Pp. viii., 424.

This is a very important work. The central idea is that geometrical form is apprehended in what we may call a dynamic manner. Lines and their combinations appear to us as active, as expanding or contracting themselves, as gathering themselves together for an effort, and the like. On the subjective side this mode of apprehension involves a corresponding activity in us. From this point of view, Prof. Lipps explains both the æsthetic enjoyment of form, and optical illusions of a geometrical kind. The method followed is rigidly scientific, producing conviction by an imposing array of facts carefully analysed and verified. The general idea seems similar to that which has been recently brought forward in the *Contemporary Review* (October and November, 1897) by Vernon Lee and Mr. Anstruther-Thomson. But Prof. Lipps' treatment is beyond comparison more precise, comprehensive, and convincing. Critical notice will appear in the July number of MIND.

Die Sociale Frage im Lichte der Philosophie. Von Dr. LUDWIG STEIN, Professor der Philosophie an der Universität Berne. Stuttgart: Ferdinand Enke, 1897. Pp. 791.

This work had its origin in a series of lectures delivered a few years ago by Dr. Stein at the Polytechnik and the University of Zürich. It is not written in the technical language of philosophy, owing to the fact that it was addressed to a general audience, but the book has gained in readableness on this account. Dr. Stein attempts to account for the social tendencies of our times, and he considers that these tendencies may be summed up as the endeavour to arrive at a new conception of social life. It is in several respects an important volume, and a detailed notice will follow.

Geschichte der neueren deutschen Psychologie. Von MAX DESSOIR. Zweite, völlig umgearbeitete Auflage. Erster Halbband. Berlin: Carl Duncker, 1897; London: Williams and Norgate. Pp. 356.

This first half-volume deals with the psychology of the eighteenth century. It consists of a condensed account of the work of the crowd of writers who during the period of *Aufklärung* occupied themselves with the study of the individual mind largely with a sentimental or practical interest. Few of the authors referred to have much significance or interest for us taken separately. But the total movement of thought which they represent is extremely curious and important. To obtain a precise idea of this movement it is well worth while to pass in review the almost interminable list of small writers; and we owe a debt of gratitude to Prof. Dessoir for the pains and labour which he has bestowed in mastering his diffuse and not very attractive material. His arrangement does not strike us as particularly lucid, but undoubtedly the problem was one of great difficulty. The account he gives of the general culture conditions of the period is very useful and interesting. In the second half-volume which is to follow he proposes to treat the same period from a different point of view. He promises a general account of the evolution of thought apart from reference to the individual men who were its vehicles. We look forward with much interest to this second instalment.

RECEIVED also:—

Smithsonian Report, 1895, Washington, Government Printing Office, 1896, pp. xliii., 837.

J. W. Powell (Director), *Fourteenth Annual Report of the Bureau of Ethnology, 1892-93*, Washington, Government Printing Office, 1896, part i., pp. lxi., 637; part ii., pp. 638-1136.

J. W. Powell (Director), *Fifteenth Annual Report of the Bureau of Ethnology, 1893-94*, Washington, Government Printing Office, 1897, pp. cxxi., 366.

C. P. Tiele, *Elements of the Science of Religion* (Gifford Lectures, 1896), in two volumes, vol. i., Edinburgh & London, William Blackwood & Sons, 1897, pp. viii., 302.

H. Holman and M. C. W. Irvine, *Questions on Logic* (The University Tutorial Series), second edition, London, W. B. Clive, 1897, pp. 130.

A. J. Evans and C. S. Fearenside, *England under the Later Hanoverians, 1760-1837* (The University Tutorial Series), London, W. B. Clive, pp. xx., 496.

M. E. Boole, *The Mathematical Psychology of Gratry and Boole*, London, Swan Sonnenschein & Co., Ltd., New York, G. P. Putnam's Sons, 1897, pp. 116.

S. C. Banerji (edited by), *Berkeley's Three Dialogues between Hylas and Philonous*, second edition, Allahabad, Indian Press, 1897, pp. lxv., 160.

W. Wundt, *Ethics;* vol. ii., *Ethical Systems* (translated by M. F. Washburn), London, Swan Sonnenschein & Co., Ltd., New York, The Macmillan Co., 1897, pp. viii., 196.

W. Lutoslawski, *The Origin and Growth of Plato's Logic*, with an account of Plato's style and of the chronology of his writings, London, Longmans, Green & Co., 1897, pp. xviii., 547.

A. Seth, *Two Lectures on Theism*, delivered on the occasion of the sesquicentennial celebration of Princeton University, Edinburgh and London, William Blackwood & Sons, 1897, pp. 64.

G. Colville (translated by), *Boethius' Consolation of Philosophy*, edited with an Introduction by E. B. Bax, London, David Nutt, 1897, pp. xx., 138.

F. Podmore, *Studies in Psychical Research*, London, Kegan Paul, Trench, Trübner & Co., 1897, pp. ix., 458.

R. Park, *An Epitome of the History of Medicine*, Philadelphia, New York, Chicago, The F. A. Davis Co., 1897, pp. xiv., 348.

S. H. Mellone, *Philosophical Criticism and Construction*, Edinburgh and London, William Blackwood & Sons, 1897, pp. xxii., 426.

E. Préaubert, *La Vie, mode de mouvement*, Paris, Félix Alcan, 1897, pp. 310.

P. Regnaud, *Comment naissent les mythes* (les sources védiques du Petit-Poucet—la légende hindoue du Déluge—pûrurovas et urvaci), Paris, Félix Alcan, 1897, pp. xx., 249.

C. Piat, *La Personne Humaine*, Paris, Félix Alcan, 1897, pp. 401.

É Boutroux, *Études d'Histoire de la Philosophie*, Paris, Félix Alcan, 1897, pp. 443.

G. Milhaud, *La Certitude Logique*, deuxième édition revue, Paris, Félix Alcan, 1898, pp. viii. 202.

C. R. C. Herckenrath, *Problèmes d'Esthétique et de Morale*, Paris, Félix Alcan, 1898, pp. 163.

J. De Strada, *Ultimum Organum*, constitution scientifique de la méthode générale, nouvelle édition, Paris, Félix Alcan, tome premier, pp. 387, tome second, pp. 484.

J. Strada, *La Religion de la Science et d'esprit pur*, constitution scientifique de la religion, tome second, Paris, Félix Alcan, 1897, pp. xii., 578.

A. Dyroff, *Die Ethik der alten Stoa*, London, Williams & Norgate, 1897, pp. xvi., 401.

G. Martius (herausgegeben von), *Beiträge zur Psychologie und Philosophie*, Erster Band, 2 Heft (G. Martius, *Über den Einfluss der Lichtstärke auf die Helligkeit der Farbenempfindungen*, P. Rostosky, *Über funktionelle Beziehungen bei der Gehörorgane*), London, Williams & Norgate, pp. 161-273.

H. Cornelius, *Psychologie als Erfahrungswissenschaft*, London, Williams & Norgate, 1897, pp. xiv., 445.

G. D. Hicks, *Die Begriffe Phänomenon und Noumenon in ihrem Verhältnis zu einander bei Kant*, Leipzig, Verlag von Wilhelm Engelmann, 1897, pp. 276.

E. Fechtner, *John Locke*, London, Williams & Norgate, 1898, pp. xi., 298.

F. Ego, *Kritik der exakten Forschung*, London, Williams & Norgate, 1897, pp. 81.

A. Bilharz, *Metaphysik als Lehre vom Vorbewussten*, zweite Hälfte, Wiesbaden, J. F. Bergmann, London, Williams & Norgate, 1897, pp. 153-430.

C. Güttler, *Eduard Lord Herbert von Cherbury*, ein kritischer Beitrag zur Geschichte der Psychologismus und der Religionsphilosophie, München, Oskar Beck, 1897, pp. vi., 244.

R. Schellwien, *Nietzsche und seine Weltanschauung*, London, Williams & Norgate, 1897, pp. 44.

V. Henri, *Über die Raumwahrnehmungen des Tastsinnes*, ein Beitrag zur experimentellen Psychologie, Berlin, Reuther & Reichard, 1898, pp. xii., 228.

G. Tarantino, *Saggio sulla Volontà*, Napoli, F. di Gennaro & A. Morano, 1897, London, Williams & Norgate, pp. 130.

P. R. Trojano, *La Storia come Scienza Sociale*, Napoli, L. Pierro, 1898, pp. xviii., 270.

IX.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. vi., No. 4. **E. Albee.** 'Hume's Ethical System.' [Hume "was the first to hold the utilitarian doctrine in its unmistakable form and at the same time to admit and defend the altruistic tendencies of human nature".] **M. W. Calkins.** 'Kant's Conception of the Leibniz Space and Time Doctrine.' ["Kant's misunderstanding is only to be explained by the reflexion that he knows only or mainly the corrupt Wolffian form of the Leibniz doctrine, which teaches that extended matter and composite bodies are made up of monads lying as it were side by side."] **C. H. Judd.** 'Wundt's System of Philosophy.' [A clear popular account of some points in the *System*. The object of idea; the three stages of knowledge; natural science as conceptual, psychology as perceptual; the two kinds of transcendent ideas; substance and cause; parallelism and teleology. Wundt's system is best described as a 'critical realism'.] **J. D. Logan.** 'The Aristotelian Teleology.' [Aristotle reconciles necessity and finality "in finding, by way of the essential relation of form and matter, or the idea of immanent teleology, both principles equally valid for the philosophical interpretation of the cosmic process". The Platonic teleology; misapprehension of Aristotle by Darwin, Lewes, Romanes; Aristotle's idea of immanent teleology paradoxical, because he determined its significance empirically.] Discussion. **B. I. Gilman.** 'Mr. Santayana's Æsthetics.' [Defence against Logan; critique of use of 'value' and 'natural selection'.] Reviews of Books. Summaries of Articles. Notices of New Books. Notes.

PSYCHOLOGICAL REVIEW. Vol. iv., No. 4. **G. M. Stratton.** 'Vision without Inversion of the Retinal Image,' i. [Continuation of experiments reported in vol. iii., No. 6. Glasses worn for parts of eight days; record of six. Summary to follow.] **W. M. Urban.** 'The Psychology of Sufficient Reason.' [Necessity has two, sufficient reason three terms. The middle term is imagination, which in every case shows two sides: an effect or force-side, and ideas held together by immanental relations. A theory of selective accommodation in the higher sphere might then read thus: 'Reaction of organism to environment is not directly upon stimulus, but indirectly through ideal complexes standing for external reality. These imitate reality, in that they are the result of imaginations which gather past experience together under the teleological criterion of reproduction of past reality-feelings. All of them tend to motor expression in will acts, *i.e.*, in accommodation. Some such expressions are right, others wrong; and so the selection works.' But what of logical relations among ideas? Are ideas useful? "The whole of truth rests upon utility which goes back to the psychological affective side; its parts, however, upon analytical and logical necessity." The difficulty ceases when both terms are reduced to the primal imagination.] **C. H. Judd.** 'Some Facts of Binocular Vision.' [Criticism of Hyslop (vol. i.), with new experiments. All results "furnish

ground for accepting the association and motor-sensation theory of visual space".] Shorter Contributions. **G. V. Dearborn.** 'Blots of Ink in Experimental Psychology.' [Blots on folded paper may be useful for work on memory, imagination, choice-reaction, etc., on account of their infinite variety, lack of suggestiveness, cheapness, etc.] **A. Cameron.** 'The Imagery of One Early Made Blind.' [Blindness at five years one month. Space ideas in terms of paper figures, swimming, etc.] **J. M. Baldwin.** 'Determinate Evolution.' [Organic Selection; the directive factor; intelligent direction and social progress. Matter added to foreign editions of *Mental Development.*] Discussion. **G. S. Fullerton.** 'Professor Ladd and the President's Address.' [Reply to criticism.] **E. A. Pace.** 'Visceral Disease and Pain.' [Critique of Head and Nichols. Head's results can be explained as a form of allocheiria, without calling in the hypothesis of distinct pain nerves. A good paper.] Psychological Literature. New Books. Notes.

Vol. iv., No. 5. **E. B. Delabarre.** 'Studies from the Harvard Psychological Laboratory,' viii. **G. V. Dearborn** and **F. N. Spindler.** 'Involuntary Motor Reaction to Pleasant and Unpleasant Stimuli.' [1017 experiments, 19 subjects. Flexion : extension = 2 : 1, under unpleasant stimulation; = 1 : 2 +, under pleasant. But this tendency is only one acting among many.] **G. M. Stratton.** 'Vision without Inversion of the Retinal Image,' *conclusion.* [Final experiments; discussion of results. "When touch and sight agree, it means that the perceptions of sight are spatially identical with the visual suggestions produced by touch, and the perceptions of touch spatially identical with the tactual suggestions produced by sight." Correspondence of local signs explains harmony, and makes reharmonisation possible whatever the position of the retinal image.] **J. M. Baldwin.** 'The Psychology of Social Organisation.' [Offprint from *Social and Ethical Interpretations in Mental Development.*] Shorter Contributions and Discussions. **A. Binet.** 'Le Dantec's Work on Biological Determinism and Conscious Personality.' [Analysis of the concepts of determinism, mechanism, physiological and psychological function, choice, spontaneity.] **C. E. Seashore.** 'A New Factor in Weber's Law.' [Weber's law is valid in regard to the apparent (not real, physical) stimulus.] **R. S. Woodworth.** 'Note on the Rapidity of Dreams.' [Observations by a modification of Egger's method. Dream associations are not extraordinarily rapid.] Psychological Literature. New Books. Notes.

Vol. iv., No. 6. 'Studies from the Princeton Psychological Laboratory,' vi. **H. C. Warren.** 'The Reaction-time of Counting.' [Counting may be perceptive, progressive or inferential. "Except under special stress of attention, or with subjects especially apt in this direction, the function of perceptive counting is limited to the numbers one, two and three." "Inference tends to shorten progressive counting, and to lengthen perceptive counting, when it takes their place wholly or in part."] vii. **G. A. Tawney** and **C. W. Hodge.** 'Some Experiments on the Successive Double-point Threshold.' [Limen for successive much shorter than that for simultaneous stimuli. The judgment 'different without direction' more frequent in experiments of the former kind. "The tactual perception of two points [successive or simultaneous] is an assimilation process, based on association, in which visual or motor images are the assimilating and tactual sensations the assimilated factors. . . . The local sign is no simple quality of tactual sensations, but rather a relation of association between the different factors, visual, motor and tactual."] **E. B. Delabarre.** 'Studies from the Harvard Psychological

Laboratory,' ix. **E. B. Delabarre, R. R. Logan, A. Z. Reed.** 'The Force and Rapidity of Reaction Movements.' [Experiments with simple and with association reactions. Maximal pressure (P) and time through which the pressure increased in intensity (D) recorded. The quotient $\frac{P}{D}$ is constant for an individual in the same series; there are individual differences, both absolute and in range of variation. Variation in degree of pressure has larger range than that in rapidity of pressure. Association experiments show lessening in rapidity and increase in degree.] **F. N. Spindler.** 'After-sensations of Touch.' [Deals with the pressure after-image, not with the after-sensation of pressure. A weight of 150 gr. working for 5 seconds gives an image. No constant ratio between duration of stimulation and either length of blank interval or length of after-image. Most favourable pressures lie between 150 and 500 gr.] Discussion and Reports. **C. L. Franklin.** 'The Colour-vision of Approaching Sleep.' [Subjective colours due to general fatigue; normal erythropsia.] **W. M. Urban.** 'Professor Wundt's "Ueber naiven und kritischen Realismus".' [Summary.] Psychological Literature. New Books. Notes.

American Journal of Psychology. Vol. viii., No. 4. **E. H. Lindley.** 'A Study of Puzzles with Special Reference to the Psychology of Mental Adaptation.' [Creatures tending to "exploit the intelligence may have perpetuated this superiority as a general intellectual play instinct". Classification: language and word puzzles, mechanical, mathematical. Adaptations have survived because, on the whole, useful: the puzzle *quale* is largely a set-back to the current of natural tendencies and habits. Interest in different kinds of puzzles: questionnaire returns, results of labyrinth test. Stages of sense-trial and error, receptual, conceptual methods. Appendix: historical notes, logical and philosophical puzzles, dilemmas of etiquette, etc.] **J. McCrea** and **H. J. Pritchard.** 'The Validity of the Psychophysical Law for the Estimation of Surface Magnitudes.' [Grew out of Quantz' work (*Journal*, vii., 1). Accuracy of judgment "astonishingly great". Approximation to Weber's law. Moved objects on the whole underestimated as compared with fixed.] **D. E. Phillips.** 'Genesis of Number Forms.' [Questionnaire returns: age of appearance, origination, use, position, hereditary possibilities, connexion with fondness for mathematics, etc. "I believe that nearly all persons possess some idea of extension of numbers, more or less indefinite." The explanation of the forms is thus to be looked for in "the motor and space elements in thought".] **J. H. Leuba.** 'The Psychophysiology of the Moral Imperative.' ["The moral imperative is the psychic correlate of a reflective, cerebro-spinal, ideo-motor process, the efferent end of which is organised into motor tracts co-ordinated for a specific action." It is reflective, as opposed to reflex apprehension; cerebro-spinal, as opposed to sympathetic (dependent on passion, emotion or sentiment); clean-cut in motor co-ordination, as opposed to division into antagonistic lines of discharge and consequent indistinctness of the idea of action. Detailed illustrations; diagrams of associated arcs. Defence of position that "cognition of moral oughtness is the psychic side of certain particular processes of the reflex-arc type". Psychophysics of impersonality, universality, imperativeness, obligatoriness, passionlessness, finality, stability, inefficacy,—the essential characters of the moral imperative.] Discussion. **M. Schallenberger.** 'Professor Baldwin's Method of Studying the Colour Perception of Children.' [Detailed criticism of method and results in Baldwin's *Mental Development*. Work of Preyer, Binet, Miss Shinn. Baldwin's

inquiry was "so carelessly carried out that no reliance can be placed on the results obtained". The idea of the dynamogenic method remains.] Book Notes. Notes and News.

Vol. ix., No. 1. **G. S. Hall** and **A. Allin.** 'The Psychology of Tickling, Laughing and the Comic.' [Questionnaire returns. Physical act of laughter, tickling, animal antics, practical joking, caricature, wit, etc., etc. "Mad, wild, weird and almost barbaric though laughter sometimes seems, perhaps reversionary and dissolutive in its nature, often convulsive in its intensity, on the whole no doubt (like occasional crying for babies) it is good for the voice, lungs, diaphragm and digestion; produces needed increase of blood-pressure to irrigate new-forming tissues; develops arterial tonicity and elasticity; tends to range, flexibility and vigour of emotional life; gives an optimistic trend against its evils; and tones down into settled and less paroxysmal states and grades of pleasure as maturity advances."] **E. C. Sanford** and **W. Preyer.** 'On Certain Optical Phenomena.' [Note and letter upon some illusion charts in form and colour.] **E. B. Titchener.** 'Minor Studies from the Psychological Laboratory of Cornell University.' xiv. **L. G. Birch.** 'A Study of Certain Methods of Distracting the Attention,' ii. [Judgments of sound intensity distracted by scents. Mechanism of distraction and stimulation by smell. "It seems from the experimental results that odour-series offer a means of distraction of the attention that is uniform, capable of gradation and applicable to normal subjects."] xv. **W. B. Pillsbury.** 'The Projection of the Retinal Image.' [Results of work with the Abbé *camera lucida* favour an empiristic theory of localisation.] **E. B. T.** 'Note to Studies iv. and vii.' [Reply to Heymans.] Discussion. **J. M. Baldwin** and **M. Schallenberger.** 'Colour Perception of Children.' [Reply to criticism and counter-reply.] **J. E. Downey.** 'A Musical Experiment.' [A recital of six selections before an audience of twenty-two; record of emotional interpretation. "Music has a somewhat definite emotional content, and the impression of this is received by the average listener, but with varying intensity. The formal content seems to be furnished entirely by the mood, associations or temperament of the individual."] **E. D. Starbuck.** 'Contributions to the Psychology of Religion. ii. Some Aspects of Religious Growth.' [Questionnaire returns. "In gradual growth, as in conversion, the clearest terms in which religious development expresses itself are those of egoism and altruism." "Religious awakenings come most frequently at about the age of puberty." But "the sexual instinct, which continues healthy and strong to conserve biological ends, has from a spiritual standpoint become a mere incident in growth". Gradual growth (doubt, estrangement, reconstruction of faith) and conversion compared. Necessity of using individual methods in religious training.] **H. E. Hunt.** 'Observations on Newly Hatched Chicks.' [Record of two chicks, second to sixteenth day.] Psychological Literature. Notes and News.

Revue Philosophique, No. 7. July, 1897. **Dunan.** 'L'âme et la liberté.—I. L'âme.' [The soul is the unity, universality of the phenomenal world. It may be conceived as unique (hylozoism) or multiple (monadism). Decision here in favour of the latter.] **Le Bon.** 'Le socialisme suivant les races. I.' **Pillon.** 'La philosophie de Secrétan. IV. Observations historiques et critiques.' (*Fin.*) [Doctrine of substance as a will, an absolute liberty which, by self-determination, creates the divine nature. Claims to synthetise theism and pantheism, monism and monadology.] Analyses et comptes rendus, etc.

No. 8. August, 1897. **van Biervliet.** 'Images sensitives et images motrices.' [Difference between them one of degree only, not of kind.] **Dunan.** 'L'âme et la liberté.—II. La liberté.' [Liberty is essentially the *libre arbitre*, *e.g.*, self-possession by means of reflexion, and the faculty of being or acting in virtue of a will which is no mere repercussion of the general order of nature, but is really autonomous.] **Le Bon.** 'Le socialisme suivant les races,' ii. **G. Belot.** 'Un nouveau spiritualisme.' (Revue critique.) Analyses et comptes rendus.

No. 9. September, 1897. **T. Martin.** 'La démonstration philosophique.' [Demonstration consists—not in the passage from the known to the unknown, which is impossible—but in the clearer determination of a pre-existent thought: "tout homme pense toujours par un acte très confus la science spéculative universelle".] **R. de la Grasserie.** 'Des causes efficientes et téléologiques dans les faits linguistiques et juridiques.' **G. Segond.** 'Le mouvement moral d'après un livre récent.' (W. L. Sheldon, *An ethical movement and other essays*. London and New York: Macmillan & Co., 1896.) Analyses et comptes rendus. Correspondance, etc.

No 10. October, 1897. **G. Zardi.** 'La graphologia.' **G. Milhaud.** 'Le raisonnement géométrique et le syllogisme.' **Dugas.** 'Analyse psychologique de l'idée de Devoir.' ["Le devoir est la forme que revêtent nos sentiments et la direction qu'ils prennent lorsque la réflexion s'y ajoute et que la raison les gouverne."] **B. Bourdon.** 'La sensibilité musculaire des jeux.' **G. Dumas.** 'Gall et l'expression des émotions.' Analyses et comptes rendus, etc.

No. 11. November, 1897. **F. Le Dantec.** 'Les théories néo-Lamarckiennes,' i. [Variations appear in definite directions, and are the result of the interaction of the organic being and its environment; acquired characters may be transmitted.] **Goblot.** 'La vision droite.' **Speranski.** 'Essai sur l'origine psychologique des métaphores,' i. **J. Philippe.** 'Un recensement d'images mentales.' **H. Bergson.** 'Principes de métaphysique et de Psychologie' (Paul Janet.) Analyses et comptes rendus.

No. 12. December, 1897. **F. Le Dantec.** 'Les théories néo-Lamarckiennes.' (*Fin.*) [Disputes neo-Lamarckian theory of the part played by consciousness in the evolution of species.] **Ch. Féré.** 'L'influence de l'éducation de la motilité volontaire sur la sensibilité.' **Speranski.** 'Essai sur l'origine psychologique des métaphores.' (*Fin.*) Analyses et comptes rendus, etc.

Revue de Métaphysique et de Morale. 5e Année, No. 4. July, 1897. **R. Eucken.** 'La relation de la philosophie au mouvement religieux du temps présent.' [There is at present going on a movement in favour of a return to religion—a movement which one may combat but cannot ignore. This is no artificial product, but is based on the needs of common life. It must be regarded seriously. But what direction should the religious movement take? What exactly is the religious aspiration to be? Modern science has deeply modified all religious views. Philosophy should hold that eternal verity is not bound to the phraseology of a particular epoch, that it speaks not only in the modes of the fourth or thirteenth centuries, but also in those of the nineteenth and perhaps the twentieth. (A paper possessing not only intrinsic interest and value, but much significance as to the trend of European speculation and its practical influence at present. We regret that our space precludes any attempt at complete analysis.)] **G. Milhaud.** 'A propos de la géométrie grecque: une condition du progrès scientifique.' [A *résumé* of some of the writer's lectures delivered this year.—Geometry as treated by Euclid is a disinter-

ested science: Euclid's treatment described and characterised. It is the fruits of preceding centuries of Hellenic geometry. The chief contributors to this study noticed in connexion with their respective works; Greek scientific work in its relationship to that of the Egyptians and Orientals, and in its connexion with Christian thought; contrast between the idealistic Greeks and the materialistic Romans, whose aversion to speculative science is notorious. Reflexions follow, showing how the application of science, great practical discoveries, increase of power over the kingdom of Nature, are all *subordinate to theoretic thought*.] **C. Bouglé.** 'Anthropologie et démocratie.' [Investigates the question as to the right of anthropology to decide questions of moral science. Craniometry, etc., cannot settle questions of right and wrong. "Social questions are not merely questions of *fact* with which science sufficiently deals, but further, and above all, questions of (moral) *principles*."] Études critiques, etc.

5e Année, No. 5. September, 1897. **L. Brunschvicg.** 'Spiritualisme et sens commun.' [So-called common sense is the slave of language. The three propositions which generate scepticism, immoralism, and atheism, are: The True *is*: the Good *is*: God *is*. This conclusion is paradoxical only for pretended common sense, not so for the genuine common sense, which declines to separate intellectual activity from the intellectual, the moral, the religious, *life*. The paper is occupied with the explanation of this paradox.] **P. Lapie.** 'Morale déductive.' [A law, whether jussive or descriptive, is a universal proposition. Morality has for its objects actions and agents: its laws enounce the relations of these actions and agents. Moral law being necessary, and therefore universal, is based on, or is, the law of reason. *Evidence* is not the criterion of the necessary. Instances of moral axioms. The Idea of Justice is that of an exact proportion between our actions *inter se*, between them and their antecedents, between them and their consequences. Men often make mistakes in the use of moral theorems. Social and individual customs mislead. Custom is confounded with reason. Moral Law governs only the *actions* of men: their *passions* come under other laws. Actions and passions, however, are strangely blended in life. How far are we passive? How far active? "The rule formulated by Socrates, Plato, the Stoics, Descartes, and Spinoza, that no one is voluntarily wicked," holds without real exception. Only by defect of intelligence is the moral law violated. Does Induction confirm moral deductions? As moralisation increases, and actions conform more to law, Induction will more and more confirm deduction in morals. Moral progress is a process of levelling upwards. Meanwhile, the moral deductions can serve as our guides among the tangled facts of life. The law of Justice can help us to 'find our way' among the actions of man, as that of attraction does among the endless variety of natural movements.] **P. Lacombe.** 'Du comique et du spirituel.' [A minute and seemingly exhaustive survey and analysis of the circumstances and conditions which excite laughter. The use of laughter: it recalls us to the truth of our state: reminds us of our infirmities, moral, mental, or physical. It exhibits the old μηδὲν ἄγαν in full operation in our lives as a natural law. In life (and in literature too) laughter is the guardian and the vindicator of moral and mental equilibrium. This thesis is illustrated by references to Molière, Voltaire, Dumas, Mme. de Sévigné, etc., etc. An excellent study of a subject whose importance is too often ignored by grave philosophers.] Études critiques, etc.

Revue Néo-Scolastique. No. 15. **M. Nys** ('La notion de temps d'après saint Thomas d'Aquin,' *suite*), comparing together the *permanent*

present and the *temporal* present, maintains that, though essentially distinct, they are so bound together in consciousness that without knowledge of the permanent present it is impossible to arrive at a knowledge of the temporal present. He discusses the concept of time as the measure of the relative perfection of entities, and as the measure of their contingent existences, and, under this last head, presents some applications of time-measure. **M. Hallez** ('La vue et les couleurs,' *suite et fin*) is of opinion that colour is primarily subjective, inasmuch as it is primarily a modification of the sentient subject. But, while primarily subjective, it is also in a secondary sense objective, seeing that it has a necessary relation to the object, arising from the fact that it is at once a representation and a mediate effect of the object. Challenging this contention, **M. Thiéry** ('La vue et les couleurs') maintains that the view of M. Hallez as to the subjectivity of colour cannot be accepted without disparagement to the senses as criteria of knowledge. **M. Pasquier** ('Sur les Hypothèses cosmogoniques') states in this his opening article the point of view from which he will approach his subject, and the manner in which he will discuss it. He will omit inquiry into the origin of life, and will restrict his consideration to the inorganic kingdom. His discussion of the subject will be rather popular than scientific. By way of preparing for his inquiry upon the formation of the universe, he briefly sets forth the actual condition of the inorganic systems. **M. de Lantsheere** ('L'évolution moderne du droit naturel') commences a discussion upon the evolution which has taken place in the theories upon the natural rights of man since the epoch of the French Revolution, and gives prominence to the share which the influence of Hegel's philosophy has had in this evolution.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xiv., Heft 1 und 2. **G. E. Mueller.** 'Zur Psychophysik der Gesichtsempfindungen,' iv. [The excitatory processes in the optic nerve and their dependence upon the retinal processes. Simultaneous contrast; binocular colour mixture; the intrinsic grey of central origin; the question of intensity; assimilation and dissimilation.] **G. Abelsdorff.** 'Die ophthalmoskopische Erkennbarkeit des Sehpurpurs.' [History of the visual purple; successful attempt to observe it by the ophthalmoscope during life.] **G. Sergi.** 'Ueber den Sitz und die physische Grundlage der Affecte.' [The theories of James and Lange. The seat of emotion is the medulla; the cortex is concerned only in the becoming-conscious of the emotive state. All affective processes are peripheral.] **G. Heymans.** 'Quantitative Untersuchungen ueber die Zoellnersche und die Loebsche Taeuschung.' [Apparatus for Zoellner's figure; influence of angle of inclination, of length of cross-lines, of distance between cross-lines; previous explanations; variations of figure. Apparatus for Loeb's figure; similar experiments. Likeness of the two illusions shown: both are 'contrast effects'.] Litteraturbericht.

Bd. xiv., Heft 4. 3 und **G. E. Mueller.** 'Zur Psychophysik der Gesichtsempfindungen,' v. and vi. [The function of the rods. The two types of blue-yellow vision.—The net result of this long and thorough investigation (the articles are procurable in separate book form) is a recasting of Hering's theory, which now has all the advantages of detail that accrue to the revised Helmholtz theory, and all the advantage of universality that is possessed by Wundt's hypothesis. There can be no doubt that Prof. Mueller's theory must be accepted as *the* theory of vision for the time being; and it seems highly probable that many of the principles of explanation employed will take a permanent place in sense-psychology.]

W. Uhthoff. 'Weitere Beitraege zum Sehenlernen blindgeborener und spaeter mit Erfolg operierter Menschen, sowie zu dem gelegentlich vorkommenden Verlernen des Sehens bei juengeren Kindern, nebst psychologischen Bemerkungen bei totaler kongenitaler Amaurose.' [Full description of three cases.] **K. Lange.** 'Gedanken zu einer Aesthetik auf entwickelungsgeschichtlicher Grundlage.' [Review of Groos' "Spiele der Thiere," with original suggestions. Classification of games. Games have no conscious end; play is for the pleasure of playing. This is made up partly of the feeling of power, partly of that of apparent activity (conscious self-deception). Play is explicable by the principle of natural selection; it is in part instinctive, in part the imitation of serious business (Wundt). Play of adults; as mother of art; as an important factor of national life.] **Heine.** 'Demonstration des Scheinerschen Versuches nebst Betrachtungen ueber das Zustandekommen von Raumvorstellungen.' Litteraturbericht.

Bd. xiv., Heft 5. **W. Preyer.** 'Farbenunterscheidung und Abstraktion in der ersten Kindheit.' [Colours, cones, etc., should be given concrete names (milk, butter, apple, dog, etc.). By following such a method we can examine colour discrimination without the name-fallacy. Children should not be taught in abstract terms: cause and effect, in particular, should be avoided, and functional interconnexion substituted for them.] **G. E. Mueller.** 'Ueber die galvanischen Gesichtsempfindungen.' [Literature. Experiments: method and sources of error. Results accord with the antagonistic-colour theory.] **E. G. A. ten Siethoff.** 'Die Erklaerung des Zeemanschen entoptischen Phaenomens.' [*Cf.* Bd. vi. The phenomenon is an entoptic complementary after-image, caused by the excitation of the percipient elements behind the region that surrounds the mac. lutea.] **R. Hilbert.** 'Ueber das Sehen farbiger Flecke als subjektive Gesichtserscheinung.' [Normal and pathological cases. No theory yet possible.] Litteraturbericht.

Bd. xiv., Heft 6. **S. Witasek.** 'Beitraege zur Psychologie der Komplexionen.' [1. Stern's direct and momentary change-perceptions are at bottom the same. The change-perception is a complexion, and consists of sensations and a 'consolidated' contents (Meinong). 2. How do ideas of complexions of higher orders arise? Take polyphonic composition, *e.g.* The constituents fall into a complexion, of themselves: but not the right one. Then comes the work of analysis (in Meinong's sense). Then, lastly, a psychic activity, a voluntary synthetising, whose directive factor is a by-product of foregone analysis. 3. What is the relation of the difference limen of constituents to that of complexion (or consolidated contents)? We often seem to distinguish complexions without being able to differentiate constituents: but all such cases are deceptive. On the other hand, we fail to distinguish complexions, where we can differentiate constituents; partly because we attend to the common aspects of the complexions, partly because analysis is imperfect.] **A. Jost.** 'Die Associationsfestigkeit in ihrer Abhaengigkeit von der Vertheilung der Wiederholungen.' [Critique of method. Results: if two associations are of equal strength but different age, repetition has a higher value for the older, and the older is less subject to decay with time. (The latter result is gained by interpretation of Ebbinghaus' figures.) In practice, when learning by heart is needful, it is best to learn the whole at once, *i.e.*, to distribute widely the repetitions of parts.] Litteraturbericht.

Bd. xv., Heft 1 und 2. **G. Wolff.** 'Ueber krankhafte Dissoziation der Vorstellungen.' [A valuable paper. (1) Detailed account of the patient Voit, already known to psychologists from the publications of Grashey and Sommer; (2) description, with autopsy, of a somewhat analogous

case observed by Rieger in the Würzburg Institute. Voit stands as a test-case for the existence of a special apperception centre.] **T. Axenfeld.** 'Ueber den Brechungswerth der Hornhaut und der Linse beim Neugeborenen, nebst Bemerkungen ueber Ophthalmometrie an Leichenaugen.' **W. A. Nagel.** 'Ueber Mischgerüche und die Komponentengliederung des Geruchssinnes.' [Dependence of a mixed scent (simple quality: *cf.* vision) upon fatigue of organ and number and quality of components. Conditions of recognition of mixture.] **A. Faist.** 'Versuche ueber Tonverschmelzung.' [(1) The fusion degrees. Faist's list (octave, fifth, fourth, tritone, major sixth, major third, minor sixth, minor third, minor seventh, major second) accords well with the lists of Stumpf and Schischmánow. (2) Stumpf's laws. Consideration under eight heads: Kuelpe's criticism is for the most part substantiated.] **T. Lipps.** 'Bemerkungen zu Heymans' Artikel "Quantitative Untersuchungen ueber die Zoellnersche und die Loebsche Täuschung".' [Explanation of Loeb's illusion in terms of the writer's general theory.] Litteraturbericht.

Bd. xv., Heft 3. **J. Cohn.** 'Experimentelle Untersuchungen ueber das Zusammenwirken des akustisch-motorischen und des visuellen Gedächtnisses.' [A predominantly acoustic-motor memory suffers greater impairment from acoustic-motor derangement than does a predominantly visual memory. Where such impairment occurs, the visual memory steps in to aid the deranged acoustic-motor, so far as type allows. Every member of a rhythmical unit (acoustic-motor memory) is connected more stably with its position in the unit than with the absolute position of its unit: confirmation of Müller and Schumann. Method of testing memory type; individual differences.] **H. Münsterberg.** 'Die verschobene Schachbrettfigur.' [Explanation by irradiation.] **A. Meinong** and **S. Witasek.** 'Zur experimentellen Bestimmung der Tonverschmelzungsgrade.' [Faist worked by the indirect method of analysis upon an organ. The writers worked by the direct method of comparison upon violin (preliminary) and reed-series. Final result (intervals beyond the octave italicised): octave, *twelfth*, *double octave*, fifth, *major tenth*, fourth, major sixth, major third, minor third, *major thirteenth* (3 : 10), *minor tenth*, minor sixth, tritone (5 : 7), *minor thirteenth*, *eleventh*, *i. and octave* (2 : 7), *tritone and octave* (5 : 14), i. (4 : 7), tritone (32 : 45), *minor fourteenth*, *tritone and octave* (32 : 90), minor seventh, *major fourteenth*, *major ninth*, major second, major seventh, minor second, *minor ninth*. Eleven fusion degrees can be subsumed to Ebbinghaus' modification of the Helmholtz theory.] **L. Hofbauer.** 'Ueber die Ursachen der Differenzen zwischen wirklicher und scheinbarer Körpergrösse.' [Men seem to be taller than they really are if legs and neck are long in proportion to trunk. The phenomenon depends upon an optical illusion.] Litteraturbericht.

Bd. xv., Heft 4. **J. von Kries.** 'Ueber die Farbenblindheit der Netzhautperipherie.' [1. The distribution of brightness in the spectrum seen by the totally colour-blind zone of the normal eye (adaptation to light) is that of the normal spectrum, not that of the Purkinje spectrum or of the spectrum of the totally colour-blind eye (pathological); *i.e.*, the maximum lies in yellow, not in green. 2. The brightness distribution in the totally colour-blind zones of a normal and of a protanopic (red-blind; Hering's red-green-blind of the blue type) eye are entirely different. The same is probably true of the normal and of the deuteranopic (green-blind; Hering's red-green-blind of the yellow type) eyes. These facts tell against Hering. They are provisionally explained by an extension of the author's own theory.] **C. Stumpf.** 'Neueres ueber Tonverschmelzung.'

[Critique of the investigations of Kuelpe, Faist, and Meinong and Witasek. 1. The degrees of fusion. 2. The fusion laws. 3. Method. As regards 1 and 2 the conclusions of the *Tonpsychologie* are (though not dogmatically) reiterated. Under 3 we have a defence of the method of massing.] Litteraturbericht.

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cx., Heft 1. **Rudolf Eucken.** 'Zur Erinnerung an Immanuel Hermann Fichte.' [Fichte's philosophy was an attempt to harmonise the truths contained in existing systems, and to remove their conflicts. His metaphysic has for its central point the thought of Personality, to the problems of which he chiefly addressed himself. His services to ethics are particularly great. He thought of political reform as destined to come by the 'moralisation' of individuals in a christianised community.] **Oswald Külpe.** 'Zur Lehre von der Aufmerksamkeit.' [This paper occupies itself chiefly with two recent works (by George Heinrich and Harry E. Kohn) on the theory of Attention. Any such theory, to be sound, must be based on a precise description of the psychical phenomena of attention, etc., etc. Its definition, too, must be treated with care. Attention appears to be now a special 'Faculty'; again a special 'activity'; again a 'state' in which one finds oneself; and yet again a psychic 'content' side by side with other contents. Theories of attention differ according as the theorists emphasise one or other of these modes of regarding it. The connotation of this name is not as well fixed in psychological writings as is that of the names '*sensation* and *feeling*'.] **Julius Bergmann.** 'Die Gegenstände der Wahrnehmung und die Dinge an sich.' [An important article of nearly seventy pages long, whose fundamental tone appears in the first sentences: "If the ancient explanation of the conception of truth is correct—that a thought is true when it harmonises with the object to which it is directed—only actually existing things can be objects of true thoughts". A thing's independence of the idea (Vorstellung) which some one has of it, its self-subsistence over against this idea —or that whereby a thing stands in this relation (of independence or self-subsistence) towards the idea of which it is the object—this is what we call its *sein* or *dasein* or *existiren*, or (if we distinguish between real and apparent) its *an-sich-sein*. The relation of Body and Soul is discussed in the concluding part of the article. 'The whole material world—the object of one absolute consciousness—is a single being.'] **H. Schwartz.** 'Descartes' Untersuchungen über die Erkenntniss der Aussenwelt.' [This paper consists of a study which appeared first in the *Revue de métaphysique et de morale*, July, 1896, and is based on investigations of the philosophy of Descartes and Hobbes contained in a formerly published work of the writer.] Recensionen, etc.

PHILOSOPHISCHE STUDIEN. Bd. xiii., Heft 3. **W. Wundt.** 'Ueber naïven und kritischen Realismus,' iii. [Empiriocriticism takes from Spinoza its unemotional mood, its ontological method, and its fundamental question—"quid corpus ex solis legibus naturæ, quatenus corporea tantum consideratur, possit agere?" Its theory of the independent vital series takes over, *mutatis mutandis*, the Herbartian ontology and mathematics; its theory of the dependent vital series revives the 'self-movement of concepts' that characterises the Hegelian dialectic. In its application of a conceptual schema, and its emphasis on certain general concepts and their word-symbols, it shows a scholastic trend. Looked at contentwise, it is a form of materialism: the E-values are functions of, dependent on, the independent fluctuations of the system C. As materialism, it is a better theory

than the brain mechanics of the physiologists or the mental organs of the anatomists. But (1) the idea of psychological function or dependence cannot be worked out in any strict sense; and (2) though Avenarius was honest in his endeavour physiologically to define the processes in the system C, the concepts of metabolism and nutrition, etc., were soon replaced by the very different notion of a substance fluctuating about a position of equilibrium. So much for philosophical parentage: on the side of natural science the 'principal co-ordination' lands us in difficulties. Avenarius assumes a 'potential' central term, behind human experience proper; but this, apparently following the analogy of 'potential energy,' really brings to life again the vicious scholastic *potentia*. Willy drops the potential and makes the co-ordination begin with life; the 'meanest worm' is enough to secure it. But time goes behind life; and we are not descended from all the worms; and they had no tradition. Mach's attack on the idea of causation is unwarranted; and Petzoldt's 'law of unequivocalness' cannot take the place of cause and effect. In psychology, empiriocriticism starts with a wrong definition; psychology becomes a part of physiology. True in only so much, that psychology and natural science differ in standpoint, not in object. As for psychical causation, Avenarius has three forms of 'logical dependence': the physical (conservation of energy), the mathematical logarithms and bases, and that of 'elements' and 'characters' on definite changes of the System C. (Why should the first and third be separated?) But, as we have seen, this last cannot be carried through. Avenarius himself speaks of the dependence as a parallelism! Nor can his other parallelism, that of the mechanical and amechanical interpretation of human movement, stand; experience reveals anything but an unequivocal relation between the terms. In sum, everything is to be looked at everywhere and always in the light of general metaphysical presuppositions; a schema of reality, made as simple as possible, must receive all the contents of experience; and any fact which conflicts with these principles is to be ignored. The theory, however, is so rigorously worked out that its errors arouse discussion of epistemological and psychological foundations; hence is it far from useless.] **F. D. Sherman.** 'Ueber das Purkinje'sche Phaenomen im Centrum der Netzhaut.' [The phenomenon is visible at the centre under the same conditions as at the periphery. The colourlessness, whether in direct or in indirect vision, cannot be regarded as due to the rods. The limen for red is lower than that for blue at the centre; towards the periphery the limina approximate. Adaptation for 20 min. and indirect vision raise the limina, the loss of red being greater than that of green and blue. Adaptation to dark does not change the proportional relation of red and blue that holds in adaptation to light.]

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Jahrg. xxi., Heft 4. **J. Kodis.** 'Der Empfindungsbegriff.' [Written from Avenarius' standpoint. Concept of sensation is meaningless unless we take into account relation of object apprehended to individual who apprehends it. It arises when we analyse total experience of percipient into the several constituents which depend respectively on the functions of the several organs of sense. This is sensation from a psycho-physical point of view. But the word has another and radically different meaning when we use it to denote the ultimate and elementary constituents into which the ideal representation of an object can be resolved. A valuable paper.] **G. Uphues.** 'Das Bewusstsein der Transzendenz.' [The old theory of the author with an addition. He attempts to explain reference to an object which is no constituent of the immediate state of cognitive con-

sciousness by saying that it is due to "judgment".] **H. Schwarz.** 'Erkenntnistheoretisches aus der Religionsphilosophie Thiele's.' [Exposition and criticism of the epistemological views contained in "*Philosophie des Selbstbewusstseins und der Glaube an Gott, Freiheit und Unsterblichkeit*". Very interesting. Thiele has made a resolute attempt to show what determines the application of the categories to special experiences. The most primitive and simple refer to sense presentations by their very nature. The more complex do so through the mediation of the simpler.] Besprechungen, etc.

Archiv für Systematische Philosophie. Band iii., Heft 4. **Paul Natorp.** 'Grundlinien einer Theorie der Willensbildung (v.).' [Likely to prove of practical value to the teacher. Deals with the relation of training and instruction, and with the special conditions and methods of educating the will in the home and in the school. We hope Dr. Natorp's articles will appear in book form.] *Jahresbericht* über die Erscheinungen auf dem Gebiete der systematischen Philosophie: I. **Paul Natorp.** 'Bericht über deutsche Schriften zur Erkenntnistheorie aus den Jahren 1894 und 1895.' II. **August Baur.** 'Übersicht über die deutsche religionsphilosophische Litteratur aus den Jahren 1895 und 1896.' Zeitschriften, etc.

Philosophisches Jahrbuch. Bd. x., Heft 3. **Adloch.** 'Der Gottesbeweis des hl. Anselm.' [The writer continues to show that between Anselm and Aquinas the difference was only one of expression. Anselm never says that God's existence is self-evident. His opponents either misunderstand his arguments or his character. His doctrine is expounded by the writer in terms of modern philosophy.] **Schutz.** 'Der Hypnotismus.' [In this concluding paper the causes of hypnotism, and its physiological and psychical phenomena, are examined, together with their analogies with other known phenomena of nature; and the practice of hypnotism is strongly condemned as dangerous to body, mind and morals, and of no real medicinal value.] **Straub.** 'Gewissheit und Evidenz der Gottesbeweise.' [The writer states in conclusion that the most striking proof of God's existence is that called teleological; says a few words on the new *entropological* argument, based on the modern assumption of dispersion of energy (heat, *e.g.*) throughout the world; points out that the facts of miracles are as true as any in history, and that they prove God's existence; that the universal belief of mankind is equal to a law of nature; and that the demonstration of God's existence is the foundation of faith.] **Linsmeier.** 'Inhalt der chemisch-physikalischen Atomhypothese.' [This second and last article deals with questions concerning ether; whether atoms are elastic or not; what are the forces inherent to them; whether there is or is not one primordial element; and concludes by saying that those chemists who deny the reality of atoms use arguments which go against the reality of matter.]

Rivista Italiana di Filosofia. May-June. **A. Valdarnini.** 'Il Metodo e la Dottrina della Conoscenza in Galileo.' [The methods and results of Galileo are compared with those of his contemporaries, whom he is shown to outdistance, philosophically, in penetration and breadth of view. Though a "Realist," he was free from one-sidedness, and the writer endeavours to show that he admitted many of the formulæ claimed as the exclusive possessions of the *a priori* school, such as the principle of contradiction and the *necessity* of causation. Possibly, from his great

reputation as a scientist, Galileo's method may be of more interest than his results. This is described as "comprehensively experimental"—the characteristic of comprehensiveness distinguishing it from the more limited experimental methods of other "naturalists" of the time. It had five fundamental points: (1) rational axioms, "which, like precious gems, adorn the mind"; (2) mathematics, including geometry; (3) experience; (4) judgment and reasoning; and (5) the opinion of the learned.] **G. Marpillero.** 'Le Idee della Vita e della Morte nei Bambini.' [A classification of the answers of 511 children, ranging from six to thirteen years of age, to various questions put to elicit their opinions upon life and death. The unconscious humour of some of the answers is as marked as their psychological value.] **G. S. Felici.** 'Marcello Palingenio Stellato.' [An account of the philosophical position and opinions of Stellato and the part he played in the Renaissance.]

RIVISTA ITALIANA DI SOCIOLOGIA. Roma: Fratelli Bocca, 1897. In Italy, as almost everywhere else, the class of subjects usually included under the comprehensive and as yet somewhat indefinite name—Sociology—is exciting an increasing amount of attention. The establishment of the review before us is in many respects a proof of it. This review, the first number of which was issued in July, will be published in Rome every two months, and will contain between 120 to 140 pages of printed matter. It is edited by a council of six, among whom are some well-known names, and it has secured the co-operation of a considerable number of highly qualified contributors both at home and abroad. The editors issue a very sensible programme with the first number. If they work the review on the lines laid down in this programme it will be a valuable addition to the stock of periodicals dealing with sociological subjects. In their programme the editors very truly point out that Sociology has not as yet acquired a clearly defined position among the sciences; it has no clearly defined point of view: it dwells too much in the domain of sterile generalities: it is too fond of drawing artificial comparisons between biological and social phenomena. It will be the object of the *Rivista Italiana di Sociologia* to avoid those pitfalls. The supreme object of the *Rivista* will be to get at sociological laws, to co-ordinate these laws and to get hold of general principles which will explain the course of social evolution as a whole. In order to attain this purpose the *Rivista* will avoid sterile generalities; it will confine itself to an accurate examination of facts relating to the origin and development of social institutions and social phenomena. In a word, it will deal with man in collective life. It will investigate the manifold forms of human association from the most rudimentary to the most advanced. Every number of the review will contain original articles, brief notes and communications on current questions, reviews of books on social subjects, a summary of the principal reviews. The first number is an excellent one. It contains an article by A. Loria on the theory of population in its newest phases; an article by Durkheim on suicide in its sociological aspect; a paper on the origin of human society by L. Gumplowicz; a paper on the future of democracy by G. Tosti, besides other contributions of considerable weight and interest. It is to be hoped that the *Rivista* will secure a wide circle of readers.

X.—NOTES.

ON THE TEMPERATURE-SENSES.

II.

The Sensation "Hot".

A *résumé* of observations made at the Physiological Laboratory of Upsala.[1]

INTRODUCTORY.

In a previous paper[2] I have, as I believe, corroborated the truth of *v. Frey's* discovery that the cold-spots of the skin give sensations of cold, not only when stimulated by cold, but also when stimulated by a certain amount of warmth, for instance by metal points of 45-50° C. and upwards. These sensations are by *v. Frey* called *paradox sensations of cold.*

It is consequently highly probable that, when *surfaces* of the skin are stimulated by metal surfaces of high temperatures, sensations of cold even then will ensue. This is in fact the case, which in the following also will be proved. But warm metal surfaces also originate sensations of warmth. The question therefore arises: *What is the result of these simultaneous sensations of warmth and cold, localised to the same place?* Do they, to our consciousness, still appear separated from each other? Or is only one of them perceived? Or do they fuse into quite a new and different sensation?

If a part of the skin is stimulated with pieces of metal (for instance brass) of different temperatures above that of the skin, the one warmer than the other, it will be found that, when you have arrived at what would be called "very warm," the next sensation will, at least on a good many parts of the body, be declared to be "hot". Some will also declare this hot sensation to be something different as to *quality* from a mere warm sensation and further that a sensation of pain *need* not accompany it. If the temperature is raised much higher, pain will of course be added to the hot sensation.

Is this hot sensation the result of simultaneous warm and cold sensations? If so, the hot sensation would probably arise as soon as the temperature of the brass piece is high enough to awake cold sensations. To ascertain in a fully *exact* way if this is the case is hardly possible. On the one hand it is very difficult to decide at what temperature the cold-spots give rise to paradox cold-sensations, as *mechanical* stimulation also may take place. *v. Frey*, however, asserts this temperature to be, for the skin at large, +45° C. I have not tried to fix this figure. On the other hand it is very difficult to say just when warm sensations end and hot begin. In my elbow-joint (inner side) I have found the hot sensation

pretty distinctly at +48° and on my forehead at +52°, when using a small cylinder of brass. *v. Frey* asserts that on mamilla his paradox sensations arise already at +40°. Just on this place I have, curiously enough, found hot sensations already at this low temperature, whereas, as already put forward, a much higher temperature is needed for the skin in general. But I do not find it advisable to try to solve *definitely* the genesis of the hot sensation on these lines. Enough however has been put forward to justify an examination of the hot sensation by other and better means as to its being the product of simultaneous warm and cold sensations.

THE PSYCHOLOGICAL ANALYSIS OF THE HOT SENSATION.

Pure introspection tells me not only, 1, that "hot" is something different, in regard to *quality*, from warm, and, 2, that hot very well can be experienced without pain (although pain very often *does* accompany it) but also, 3, that hot is a simple sensation, which *generally* cannot be cut up or analysed into component parts. I know quite well that I will meet opposition from many in regard to points 1 and 2. But it must be remembered that taking, as I do, a special interest in examining that peculiar sensation which according to *my* way of feeling lies so to say between "warm" and "smarting or burning pain" (caused by thermal stimulation), I only deem it best to *call* this particular range of sensations "hot". I therefore hope it will be understood that possible criticisms must be directed more against the *existence* of such a range and against my investigations of the sensations, which make up this range, and less against the advisability of my confining the word "hot" to these particular sensations. Still I wish to maintain that my way of defining "hot" is the right one.

Before I go to experimental investigations of the hot sensation, I must say a few words about

DIFFERENT WAYS OF OBTAINING SENSATIONS OF COLD WITH WARM OBJECTS.

In order to prove that *surfaces* (and not only spots) of the skin may be made to give cold sensations when stimulated with warm objects, I have made use of *Thunberg's*[3] silver-plates, otherwise invented and constructed for determining the *minimum perceptibile* of the warmth-, cold- and pain-senses. These consist of thin plates of silver, from $\frac{3}{1000}$ to $\frac{1}{2}m/m$ thick, having a surface of about 4 square c/m and fastened to bits of cork. If heated to +100° C., plates of $\frac{33}{1000}$ m/m and above will, when applied to certain parts of the skin, for instance on the front part of the thigh, the inner surface of the elbow-joint, etc., occasion first a quick, very short sensation of cold and afterwards a sensation of warmth or heat, which may be—if the plate is thick enough—accompanied by pain. The same phenomena can also be obtained with any piece of metal of high temperature although with far less ease, the amount of heat, *i.e.* stimulus, applied being of course in this way very difficult to determine. The phenomena, caused by the shorter reaction-time of the cold sensations in comparison to the warm, prove our point to our perfect satisfaction.

The same can also be shown in a perhaps still clearer way by decreasing the irritability of the organs of the warmth-sense through their *exhaustion*.

This can be done in two ways :—

First exhaustion-experiment : After having exposed myself (in a bath) to warm water (37 – 39° C.) for some length of time, I passed my foot quickly through very hot water. My first feeling was a sensation of cold so distinct and so pure as to be indistinguishable from sensations received from

cold water; upon this followed, after some fractions of a second and *after the cold had sunk away*, a sharp and pure smarting sensation of pain. No sensation of warmth occurred. This experiment is interesting not only because it proves the truth of our proposition, but also because it allows us to obtain pure and isolated sensations both of cold and of pain from hot objects.

Second exhaustion-experiment: If a piece of metal of + 52 – 54° C. is laid on the volar side of the fore-arm, the hot sensations which first ensue decline after a time. Then pricks or currents of cold will come forward. This is easily explained, if we assume that the warmth-sense is more easily exhausted than the cold sense by the hot object. The cold sensations, which, when the stimulus was first applied, blended together with the warm sensations into a hot sensation, do not later on completely fuse together with the warm sensations but "break through" so to say.

We will now turn our attention to some, in my opinion, still more convincing forms of

THE EXPERIMENTAL ANALYSIS OF THE HOT SENSATION.

The first investigation to be made must regard the question *if hot sensations can be obtained on places where the cold-spots are absent, i.e.*, where no cold-sense exists. If my hypothesis is right, only warm sensations are to be had on such places. Although difficult, it is still quite possible to find and map out places where no cold-spots, but only warm-spots exist. One half to one square centimetre must however suffice, as larger areas are difficult to find. *Such places are now found to give only warm sensations; if the temperature of the stimulus be further increased, pain but no heat is added to the warm sensations.*

The following observation is worth notice. If a place with badly developed warmth-sense but strong cold-sense (for instance the upper parts of the forehead) be stimulated with pieces of metal, the one warmer than the other, it will be found that after the sensation "slightly warm" has been got, the next sensation will be "hot"—no intermediate stage of "quite warm" and "very warm" being obtainable. This shows also very clearly that a hot sensation is *not* the same thing as a very *warm* one.

Does now the hot sensation come out on places where the warmth-sense is absent? This is the other side of the question. *No, on such places only cold but no hot sensations are obtainable.* The warm sensation is consequently also a necessary factor in the hot sensation.

Any hypothesis that the hot sensations might be due to specific "hot-spots" or "hot-nerves" must, of course, after this, fall to the ground. Besides, no other temperature-spots than warm- and cold-spots can be found, and these give, when stimulated separately, no other sensations than warmth or cold. Only when *both* kinds are stimulated simultaneously can hot sensations be obtained.

Thunberg[4] has also had reason to inquire into the character of the hot sensation. This investigator wished to know what kind of sensations would arise, if a part of the skin was stimulated simultaneously by cold and warm objects, each of which gave rise to a continuous thermal sensation, localised to the same common surface. This was accomplished by applying warm and cold spiral tubes to the skin, the coils of the one kind of stimulus lying between those of the other. If these coils were applied in a certain manner, it was found that you got a sensation "as if the temperature was suddenly raised and a feeling of 'hot' ensued," coupled with the sensation of a burning sensation being about to arise. As far as I have been able to form an opinion of and analyse these curious sen-

sations, I believe *Thunberg's* description to be right. Not being sure—but still suspecting—that cold sensations can be had from hot objects, *Thunberg* did not then wish to put forward any opinion as to the importance of the cold sensation in regard to the building up of the hot sensation. But the existence of the paradox sensations of cold having been proved, this experiment of *Thunberg* now appears to show very nicely the important *rôle* played by the cold sensation in this respect.

MISCELLANEOUS.

I believe I have been able to show that hot objects generate warm *and* cold sensations, which generally fuse into a new, single and uniform sensation: hot. Single and uniform, however, only to our consciousness, as by artificial means hot can be shown to be the result of different simultaneous sensations.

The hot sensations have not the same character on the entire surface of the skin; on some parts they can only with difficulty and in an imperfect way be obtained. The character of the hot sensation depends in fact upon the strength of the warmth- and cold-sense relatively to each other on the place in question.

Rather often people are heard to say that they get burnt or get feelings of heat from metal of very low temperatures. I have however stimulated my skin with metal (brass) of various low temperatures (down to – 70° C.) without any sensations of warmth or of heat proper resulting. Very low temperatures, – 50 to 70° C., generate besides cold a sharp, superficial smarting sort of pain (in addition to the deeper, duller pain which temperatures of – 10 to 20° C. generate). I believe, therefore, that these smarting sensations plus cold are mistaken for being the same as those hot, *i.e.* warm and cold sensations, plus sensations of pain, which very hot objects awake.

What *practical worth* have these hot sensations? As they differ in *quality* from warm sensations, they of course facilitate our distinguishing between objects of different degrees of warmth or heat. As however the distance on the temperature scale, between where hot sensations and where sensations of pain begin, is short, comprising only a few degrees, these latter sensations soon help us in this respect. The range therefore, where the hot sensations reign and are of practical value as pure sensations, is generally comparatively small. But on such places, where the *minimum perceptibile* of the pain-sense lies rather high, and where the cold-sense is strong and the warmth-sense weak, as in the cavity of the mouth and on the tongue, the range of the pure, not pain-coloured, hot sensations becomes larger and their practical importance greater.

REFERENCES TO LITERATURE.

[1] Alrutz, Sydney: A full account of the observations related in this paper is to be found in *Upsala Läkareförs. Förhandlr.*, 1897, "Om förnimmelsen hett," p. 340.

[2] "On the temperature-senses, I.," MIND, July, 1897.

[3] Thunberg, T.: "Bidrag till kännedomen om hudsinnenas fysiologi," *Upsala Läkareförens. Förhandlr.*, 1895, Bd. xxx.

[4] "Förnimmelserna vid till samma ställe lokaliserad, samtidigt pågående köld-och värmeretning," *Upsala Läkareförs. Förhandlr.*, 1896, p. 489.

SYDNEY ALRUTZ.